

Hippocrates and Medical Education

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Studies in Ancient Medicine

Edited by

John Scarborough

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VOLUME 35

CATALOGVS LECTIONVM

ÆSTIVARVM, QVÆ HABENTVR
IN ACADEMIA LEYDENSI.

Rector & Senatus Academicus studiosæ iuuentuti.

D

VPLEX. causa nobis fuit, optoni lucenti, Iudicem hunc diuulgandi, in quo & Lectionum seriem habetur & Lestimonum. Prior, ut ceteris commoda (que iure nobis cordi) consilium ueniat: & ut cuique sine bastatione aut inquisitione constaret, qui, quando, quid, quique his mensibus in publico doceret, atque ita promptum omnibus, studia sua huiusque deperire ad ea iuuenti & aptare. Altera, ut etiam ad externos ratio disciplina & industria nostra diffunderetur, ut siquidem iis serui ad meliora studia arripere aliterent, uiderent nihil (certe non multum) hic desse quod ad legitimum cultum requiratur animarum. Accipite ergo libenter & uolentique hunc Iudicem: sed Assilum. Nam resum ita Mag. Rectori, Amplissimis Curatoribus, Prudentissimis Consulis, his cum anno commutare pro ratione dierum breuiorum, aut longiorum. Itaque resque ad usum Olorem, cum Eiderum dabimus, ille rati firmisq; cito: hac formid.

MANE

HORA VIII.

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IOANNES HEVRNIUS Rector, Medicinæ Professor ordin. interpretatur & enarrat HIPPOCRATEM De victus ratione in morbis acutis.

HORA IX.

LVCAS TRELCATIUS Theologiæ Professor ordinarius explicat PAVLI Epistolam I. ad Corinthios.

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DYM Romanarum Antiquitatum.

A MERIDIE

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HORA III.

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BONAVENTVRA VVLCANIVS Græcæ linguæ Professor ordin. diebus Lunæ & Martis explicat PINDARI Nemea. Diebus Iouis & Veneris PLVTARCHVM *sexi dogmata.*

HORA IIII.

RODOLPHVS SNELLIVS Mathematicæ Professor extraordin. interpretatur diebus ordinariis GEOMETRIAM. Diebus Mercurij & Sabbathi DIONYSIVM ALEXANDRINVM De situ orbis.

IACOBVS RAMSÆVS Prof. extraordin. explicat TOPICA ARISTOTELIS.

Lugduni Bat. cl. d. 15. xcii.

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Hippocrates and Medical Education

Selected papers
read at the XIIth international
Hippocrates Colloquium
Universiteit Leiden
24–26 August 2005

Edited by
Manfred Horstmanshoff

In collaboration with
Cornelis van Tilburg



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On the cover: Hippocrates and Galen debating. Fresco in the Cathedral of Anagni, Lazio, Italy, thirteenth century AD. (See Jacques Jouanna, 'Hippocrates as Galen's teacher', pp. 1–21 in this volume).

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PREFACE

MANFRED HORSTMANSHOFF

In the summer of 1901 the illustrious Canadian physician Sir William Osler braved the heat of an unusually warm summer to walk from Leiden to castle Oud Poelgeest, in the village of Oegstgeest, where Herman Boerhaave had lived and established a herb garden (ill. 1 and 2).¹ He wanted to pay tribute to the famous *communis praeceptor Europae*, ‘teacher of all Europe’, who taught at Leiden University from 1701 to 1738. Osler considered Boerhaave to be the man who had laid the foundation for modern western medical education. Boerhaave, in his *Orations* of 1701 and 1703, emphasised the importance of a structured curriculum, progressing from natural sciences via basic theoretical knowledge of medicine to medical practice. The last implied a body of knowledge that could not be obtained within a lifetime. Therefore, students should read reliable classical authors like Aretaeus of Cappadocia, Rufus of Ephesus, Nicander of Colophon and, above all, Hippocrates. Having read the main medical authors, they should return to Hippocrates to whom — according to Boerhaave’s autobiographical notes — ‘the later authors owed everything that was good in their works’.

Inspired by Boerhaave as the *genius loci*, a hundred participants from all over the world convened at Oud Poelgeest to discuss ‘Hippocrates and Medical Education’, the theme of the XIIth International Hippocrates Colloquium, organised by the Department of Classics, University of Leiden, 24–26 August 2005. The Leiden Organising Committee consisted of R.M. (Bert) van den Berg (ancient philosophy), H. (Harm) Beukers (history of medicine, now Scaliger Professor) and H.F.J. (Manfred) Horstmanshoff (ancient history and history of ancient medicine).

¹ I owe this beginning to an article in Dutch by my friend and colleague Harm Beukers in: *Geschiedenis der Geneeskunde* 11 (2007) 6: 321. He contributed an unpublished paper on ‘Boerhaave and Hippocrates’ at the Anglo-Dutch Welcome Symposium 2004, held at Oegstgeest. I thank him for his kind permission to quote him.

Together with the Academic Committee, consisting of Philip van der Eijk (then University of Newcastle upon Tyne; now Humboldt Universität Berlin), Founder-Member Jacques Jouanna (Université Paris-Sorbonne), Juan Antonio López Férez (Universidad Nacional Educación a Distancia, Madrid), Amneris Roselli (Istituto Universitario Orientale, Naples), John Scarborough (University of Wisconsin, Madison) and Renate Wittern-Sterzel (Friedrich-Alexander-Universität, Erlangen-Nürnberg), they selected from the 49 abstracts submitted 37 abstracts for presentation. The reader will find in the following pages 23 of those papers, revised for publication and all in English, though some were presented in French, German, Italian and Spanish.²

From the start it was clear that this Colloquium would take the term ‘Hippocratic’ very broadly: not only the Hippocratic Corpus in all its richness was its subject, but also the medical tradition, from Ancient Greece and Rome via Late Antique Alexandria to eighteenth-century Spain and The Netherlands.

² The following papers were also selected for presentation, but in the event could not, for a variety of reasons, be included in this volume: Patricia Baker, ‘Aesclepiia and Madrasas: A Comparative Approach towards the Understanding of the Physical Arrangement of Structures related to Medical Teaching’; George Boger, ‘Hippocratic Epistemology—Educating Medical Scientists’; Nancy Demand, ‘The Educational Value of the Travel of the Hippocratic Doctor’; Rebecca Flemming, ‘Exegetical Education: Galen as Teacher in his Hippocratic Commentaries’; Elsa García Novo, ‘Learning in the Hippocratic Corpus: the Disease, the Patient, the Physician’; Eliza Glaze, ‘Agnellus of Ravenna meets Master Herebertus of Durham Cathedral: The Strange Fate of Latin Pedagogy on Galen’s *De sectis*’; Alessia Guardasole, ‘Les Problemata Hippocratiques: un Exemple Original de Catéchisme et Commentaire dans la Tradition Médicale et Religieuse’; Jim Hankinson, ‘Galen and the Role of Logic in Medical Education’; Inna Kupreeva, ‘Medical Students in the Philosophy Classroom? (Philosophy and Medicine in Ammonius’ Lectures)’; Erwin Huizenga, ‘“Because my Son does not read Latin”: The Education of Medieval Surgeons’; Alberto Jori, ‘Philosophische Bildung für Ärzte und Ärztliche Bildung für “Philosophen”: das Projekt von Plutarchos’; Samuel Kottek, ‘“A Work that remains Abstruse to its Readers is Void”: Maimonides’ Commentary on Hippocrates’ Aphorisms’; Remke Kruk, ‘Ibn abi l-Usaybi’a’s Medical Biographies: Physicians and their Scholarly Training’; Florence Limburg, ‘Medical *decreta* in Seneca’s Letter 95 and the Preface to Celsus’ *De Medicina*’; Marie-Hélène Marganne, ‘Les Titres de Traités Hippocratiques attestés dans la Littérature Médicale Papyrologique’; Jordi Redondo and Susana Sancho, ‘Greek medical loanwords in Medieval Valencian authors’. One article was added, although not read during the Colloquium: Roberto Lo Presti, ‘Tradition as the genealogy of truth. Hippocrates and Boerhaave between assimilation, variation and deviation’.

It seemed appropriate to assess, for the first time since Kudlien's seminal article of 1970, ancient medical education and its decisive role in the last twenty-four centuries in a full-length volume.³ In the Call for Papers the following topics had been suggested: philosophy (theory and practice, empiricism, experiments, theoretical concepts); practice (schools, sects, the formation of the curriculum, theory and practice, the formation of the canon, literacy and orality, status of masters and pupils, anatomy, handbooks, catechism—questions and answers—access to training and education); tradition (the role of tradition in medical education, the role of commentaries).

The selected papers were presented on three successive days. Professor Douwe D. Breimer, then Rector Magnificus of Leiden University, opened the conference. He referred to the great tradition of Leiden, where medicine has been taught on an academic level continuously from the very start in 1575, when Prince William of Orange gave the university to the citizens of Leiden as a reward for their courage in the struggle for the independence of the Netherlands.⁴

In the past 435 years many renowned Leiden medical professors and some classicists have paid tribute to classical medicine and especially to Hippocratic Studies. Pieter van Forest (Forestus, 1522–1597), who published many works in the Hippocratic style, such as his *Observationes*, was the first professor of medicine.⁵ He held his inaugural lecture at the *dies natalis* of Leiden University on 8 February 1575, but, since there were no students, he actually never taught, and so his colleague Gerardus Bontius (1536–1599) remained the only medical professor until 1581. Forestus went back to Delft to resume his duties as a city physician and as a personal physician to the Prince of Orange.

In the Dutch Golden Age, however, the number of students from all over Europe grew rapidly, as Leiden developed into an innovative university, especially in the Faculty of Medicine. In 1589 Petrus Pauw was appointed as Professor of Botany (Botany and Anatomy from 1592). He was the driving force behind the foundation of the Leiden

³ Kudlien (1970) 3–37.

⁴ For a compact history see Otterspeer (2008).

⁵ A complete bibliography is included in: Bosman-Jelgersma (1996). Biographical details of all Leiden medical professors in Wallé, D. (2007). A summary of the early history of medical education at Leiden University may be found in Jansen, Retèl & Waszink jr. (1992).

Hortus Botanicus and the Theatrum Anatomicum.⁶ A *Series lectionum*, ‘Catalogue of classes’, of the summer semester 1592, announcing the lessons by Ioannes Heurnius on Hippocrates and by Petrus Pauw on Dioscorides, bears testimony to medical education at Leiden in those years (frontispiece).⁷

In 1633 Johannes Walaeus was appointed as professor *extraordinarius*. Influenced by his colleague Franciscus De le Boë Sylvius, he became an advocate of William Harvey’s theory of blood circulation. The Leiden Faculty of Medicine played an important part in the dissemination of this theory. What the atmosphere was like in those days we happen to know from a letter, sent by a Danish student, a certain Borrichius, to his teacher Bartholinus in Copenhagen. He mentioned that Professor Johannes Antonides van der Linden (Lindanus 1609–1664), a renowned authority in Hippocratic medicine,⁸ saw with envy that his students left him—and Hippocrates—alone, and went to the classes given by his colleagues Heurnius and De le Boë Sylvius, who taught iatrochemics and were distancing themselves from the theory of the four humours: *Lindano cum suo Hippocrate deserto, et vacua in aula neglegi Hippocratem ringente* ... ‘while van der Linden along with his beloved Hippocrates was forsaken, brooding in the empty hall because Hippocrates was being neglected.’⁹

In 1637 the Board of the University decided to include bedside teaching in the curriculum, the so-called *collegium medico-practicum*. Expressly for this purpose a clinic, the St. Caecilia-gasthuis, was put into use, the first university clinic in Europe.

After Herman Boerhaave had set the standard for medical education for almost two centuries in Leiden, as elsewhere in Europe and North America, Hippocratic studies remained an important part of the medical curriculum. Until the mid-19th century the Hippocratic *Aphorisms* were subject of examinations, in Latin. One of the last Dutch academics to combine Hippocratic studies and medical practice was Franciscus Zacharias Ermerins (1808–1871), the editor of Hippocrates’ *Liber de victus ratione in morbis acutis* with critical remarks on the text of Soranus’ *Gynaecology*¹⁰ and of the monumental edition *Hippocratis et aliorum*

⁶ On the history of the Leiden Hortus Botanicus see now Egmond (2010); on the Theatrum Anatomicum Huisman (2009).

⁷ *Catalogus* (1592).

⁸ Van der Linden (1665).

⁹ Letter from O. Borrichius to Bartholinus, Leiden, 1661, cited in Banga (1975) 498.

¹⁰ Ermerins (1841).

medicorum veterum reliquiae in three volumes, Trajecti ad Rhenum (Utrecht), 1859–1864. He obtained his doctorate in Leiden as a pupil of Cornelis Pruijs van der Hoeven (1792–1871).¹¹

The interest of Leiden classicists in Hippocratic studies remained superficial. Before his arrival in Leiden in 1593 the great Josephus Scaliger already had published his comments on Vertumnus' edition of *De capitis vulneribus* 'On Wounds in the Head',¹² but after that date few publications on ancient medicine by Leiden philologists saw the light of day. After ca. 1850 ancient medicine seemed to be a stamping-ground for erudite physicians more than for classical philologists. As elsewhere in the Western World, that was to change in the last decades of the 20th century. When three Leiden classicists in 1992 organised an international conference on 'Ancient Medicine in its Socio-Cultural Context', bringing together philologists, archaeologists, ancient historians, medical historians, historians of philosophy, Arabists and others, this initiative met with an unexpected response.¹³ The surge of publications in ancient medicine was spearheaded by innovative scholars like Jacques Jouanna, who started the *Colloques hippocratiques internationaux* in Strasburg, 1972,¹⁴ Vivian Nutton and Heinrich von Staden.

Leiden has always been a centre for the publication of Hippocratic books. In 1601 Johannes Heurnius' *Hippocratis Aphorismi Graece et Latine* was published by Franciscus Raphelingius, starting a Leiden tradition that is continued to the present day by Brill's Academic Publishers with its *Studies in Ancient Medicine*, a series that now totals 49 volumes.

Against the background of this tradition, the XIIth Colloquium Hippocraticum took place. On three succeeding days speakers and participants considered the announced theme. The first day was devoted to: 'Doctors and Laymen', 'Theory and Practice' and 'Teachers and Pupils'; the second day saw 'Galen and the Hippocratic Tradition' on its programme and an excursion by boat from Oud Poelgeest to the heart of Leiden, the ancient Academy building on the Rapenburg canal. There, in the 'Groot Auditorium', the ceremonial hall of the University, Ineke Sluiter, held her public lecture 'Textual Therapy'. This was followed by a reception in the administrative centre of the University and a conference dinner in

¹¹ Ermerins (1832). On Ermerins see: Horstmanshoff & Jansen (1995) 101–106.

¹² Vertumnus (1578).

¹³ Eijk, Horstmanshoff & Schrijvers (1995).

¹⁴ Irigoin (1972).

the Faculty Club. The last day focused on the ‘Teaching of Surgery and Obstetrics’, ‘Medical Education and the Classical Tradition’ ‘Comparative Approaches’ and ‘Doctors without Borders’. Joan Booth, Professor of Latin at Leiden University and Chair of the Department of Classics, closed a lively conference by announcing that the Faculty of Arts and Letters had decided to establish a special chair in the History of Ancient Medicine, endowed by the Stichting Historia Medicinae (Foundation for the History of Medicine).

The articles here presented fall under four headings: ‘Doctors and Laymen’, ‘Teachers and Pupils’, ‘Teaching of Surgery and Obstetrics’ and ‘Galen and the Hippocratic Tradition’. I realise that the articles offered here in one volume cannot cover systematically the whole field of ancient medical education and its tradition. One of the most obvious lacunae is a study of the social context. Every reader will for herself or himself discover other lacunae, passages open to question, and errors, but, I hope, also inspiration for new research.

As editor I allow myself some personal observations. First by the content of this volume I feel confirmed in my view that the physicians of antiquity generally did not try to connect the scholarly or scientific with the empiric. If they had any intellectual aspirations at all they moved rather in the direction of philosophy and rhetoric. The majority of them were primarily craftsmen. If they sought to appear as men of learning, they took on the guise of rhetors in order to obscure the manual side of their discipline, overlaying this with an ideological veneer. Furthermore it is clear that the role of Hippocratic medicine in medical education could only become an object of serious historical research when it was no longer an actual part of this education, i.e. after ca. 1870; around this time ancient medicine became emancipated from classicism, and the Hippocratic Corpus could be studied within its socio-cultural context. My third and final personal observation is that the articles in this volume have strengthened my conviction that medicine has always been and should be a part of the humanities.

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Illustrations 1 and 2. Castle Oud Poelgeest, Oegstgeest (near Leiden), the Netherlands, venue of the XIIth Colloquium Hippocraticum, 2005. Herman Boerhaave (1668–1738) bought it in 1724 and founded a herb garden here. Now it is a Congress Hotel. Photo courtesy Congress Hotel Oud Poelgeest.

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This conference and the volume that resulted from it would never have been possible without the help of numerous individuals, societies and institutions. The Wellcome Trust, the Stichting Historia Medicinae, Vereniging Nederlands Tijdschrift voor Geneeskunde, Van Zuiden Communications, OIKOS Dutch National Graduate School in Classical Studies, the Faculty of Arts and Letters (now the Faculty of Humanities) of Leiden University and its Research Institute Pallas (now Institute for Cultural Disciplines), and Brill Academic Publishers have offered generous financial support. The Academic Committee safeguarded the high scholarly standards of the *Colloques hippocratiques internationaux*. The members of the Organising Committee, assisted by the energetic and efficient John Gruson, made sure that the conference proceeded smoothly.

Cornelis van Tilburg did the complete layout for this complicated volume. I wish to express my sincere gratitude to him for his meticulous care and technical expertise in applying the editorial guidelines. The detailed indexes are entirely his work. Brill's editorial staff have guided this volume patiently and efficiently through the press.

My colleague and friend Joan Booth has given me much advice and encouragement, and not only with regard to my English language and style.

Philip van der Eijk, member of this Committee, and of the Editorial Board of Brill's Ancient Medicine Series, showed genuine interest and offered practical help at decisive moments in the difficult editorial process. The decision to publish this volume in English had the consequence that some articles had to be translated and others revised. Neil Allies, Christine Salazar and Arachne van der Eijk-Spaan, as translators and correctors, have made an important contribution to this volume.

My research stay as a Fellow-in-Residence at the Netherlands Institute for Advanced Study in the Humanities and Social Sciences (NIAS) in 2008–2009, was *inter alia* important for the completion of my editorial task.

Above all I am indebted to the authors of the articles in this volume, who supplied the *tessellae* for the colourful mosaic of Hippocrates and Medical Education.

I thank them all profoundly.

Leiden, September 2010.

BIBLIOGRAPHICAL NOTE

Ancient sources are referred to by abbreviated titles. Generally in the text, the notes and the index locorum the abbreviations are used which are listed in H.G. Liddell, R. Scott and H.S. Jones, *A Greek-English Lexicon* (Oxford 1996³) xvi–xlvi in P.G.W. Glare (ed.), *Oxford Latin Dictionary* (Oxford 1982) ix–xxi, with a few easily recognizable exceptions, notably for Hippocratic and Galenic texts, where the abbreviations of Fichtner are used (G. Fichtner, *Corpus Hippocraticum: Verzeichnis der hippokratischen und pseudohippokratischen Schriften*, Tübingen 1992, or later and *Corpus Galenicum: Verzeichnis der galenischen und pseudogalenischen Schriften*, Tübingen 1990 or later).

References to Hippocratic texts generally contain the volume and page number of the Littré edition (Greek text with a French translation): E. Littré (ed.), *Oeuvres complètes d'Hippocrate*, vol. 1–10, Paris 1839–1861, repr. Amsterdam 1961–1963. Sometimes references to the editions in the Loeb Classical Library (LCL, Greek text with an English translation) are included as well: W.H.S. Jones and E.T. Withington (eds), *Hippocrates*, Volume 1–4, Loeb Classical Library (London/Cambridge (Mass.) 1932–1931); P. Potter (ed.), 5–6 (1988), Wesley D. Smith (ed.), 7 (1994), P. Potter (ed.), 8 (1995). Sometimes other editions are referred to, e.g. in the *Corpus Medicorum Graecorum*, *Corpus Medicorum Latinorum*, the Teubner- or Budé-series.

References to Galenic texts contain the volume and page number of the edition by Kühn: G.C. Kühn (ed.), *Claudii Galeni Opera Omnia* 1–20 (22 Volumes), Leipzig 1821–1833, repr. Hildesheim 1964–1965 (Greek text with a Latin translation).

Some examples:

Hipp., *Aph.* (‘Aphorisms’) 3.30 (4.500–1 L.; 4.132–3 J.) means:

Corpus Hippocraticum, *Aphorismi* Book 3, number 30; in the edition by Littré: Volume 4, page 500–501; in the Loeb edition by W.H.S. Jones: Volume 4, page 132–133.

Galen, *In Hipp. Epid. II comment.* 3.31 (17a.444–7 K.) means:

Galen, *In Hippocratis Epidemiarum Librum Secundum Commentarii* ('Comments on the Second Book of Hippocrates' *Epidemics*') Book 3, Chapter 31; Volume 17a, page 444–447 in the edition by Kühn.

In the *index locorum*, generally only the Kühn- and Littré-references have been mentioned; for full references to other editions see the articles themselves.

To find modern editions of other Greek and Roman medical authors H. Leitner, *A Bibliography to the Ancient Medical Authors*, Bern 1973, is an indispensable tool. Updates are easily accessible via the digital *Ancient Medicine Newsletter*: <http://www.bium.univ-paris5.fr/amn/>

Other Greek and Roman authors are cited according to the usual modern editions, such as the *editio Teubneriana*, or the *Oxford Classical Texts*. Most texts are accessible also in bilingual editions, e.g. the Loeb Classical Library (LCL).

ABBREVIATIONS

<i>AE</i>	<i>L'Année épigraphique</i>
<i>BGU</i>	<i>Aegyptische Urkunden aus den Königlichen (later Staatlichen) Museen zu Berlin, Griechische Urkunden</i>
Budé	<i>Collection des Universités de France</i>
<i>CGL</i>	<i>Corpus Glossariorum Latinorum</i>
<i>CIL</i>	<i>Corpus Inscriptionum Latinarum</i>
<i>CMG</i>	<i>Corpus Medicorum Graecorum</i>
<i>CML</i>	<i>Corpus Medicorum Latinorum</i>
DK	H. Diels, W. Kranz, <i>Die Fragmente der Vorsokratiker</i>
<i>FGH</i>	<i>Fragmente der Griechischen Historiker</i>
<i>GMP</i>	<i>Greek Medical Papyri</i>
<i>I. Ilion</i>	<i>Die Inschriften von Ilion</i>
<i>ICUR</i>	<i>Inscriptiones Christianae Urbis Romae</i>
<i>ID</i>	<i>Inscriptions de Délos</i>
<i>IG</i>	<i>Inscriptiones Graecae</i>
<i>ILAlg.</i>	<i>Inscriptions latines de l'Algérie</i>
<i>ILAf.</i>	<i>Inscriptions latines d'Afrique</i>
<i>ILCV</i>	<i>Inscriptiones Latinae Christianae Veteres</i>
<i>ILJUG</i>	<i>Inscriptiones Latinae quae in Iugoslavia inter annos MCMXL et MCMLX repertae et editae sunt</i>
<i>ILN</i>	<i>Inscriptions latines de Narbonnaise</i>
<i>ILPBardo</i>	<i>Catalogue des inscriptions latines païennes du Musée du Bardo</i>
<i>Inscr. V. Ephesos</i>	<i>Die Inschriften von Ephesos</i>
K.	C.G. Kühn, <i>Claudii Galeni opera omnia</i> , 22 vols., Leipzig, 1821–1833, repr. Hildesheim, 1964–1965
KL	Kegel-Brinkgreve, E., Luyendijk-Elshout A.M. (1983), <i>Boerhaave's Orations</i> , Leiden
L.	E. Littré, <i>Oeuvres complètes d'Hippocrate</i> , 10 vols., Paris, 1839–1861, repr. Amsterdam 1961–1963
<i>LSJ</i>	H.G. Liddell, R. Scott, H.S. Jones, <i>A Greek-English Lexicon</i> , Oxford, 1996 ³ (with revised supplement)
M-P ³	M.-H. Marganne, P. Mertens (eds.), 'Medici et Medica, 2e édition', in: I. Andorlini (ed.), <i>Specimina per il Corpus dei papiri</i>

Greci di Medicina, Florence, 3–71. An update (March 2010) is available on <http://promethee.philo.ulg.ac.be/cedopal/Bibliographies/Medica.htm>

<i>OLD</i>	<i>Oxford Latin Dictionary</i>
<i>PG</i>	<i>Patrologiae cursus completus, series Graeca</i>
<i>PLRE</i>	<i>Private libraries in Renaissance England</i>
<i>SB</i>	<i>Sammelbuch griechischer Urkunden aus Aegypten</i>
Sch.	<i>Scholia</i>
Sch B on Heph.	<i>Scholia in Hephaestionis Enchiridion</i>
SchDTh	<i>Scholia in Dionysii Thracis artem grammaticam</i>
<i>SEG</i>	<i>Supplementum Epigraphicum Graecum</i>
<i>TLG</i>	<i>Thesaurus Linguae Graecae</i>
WChr.	L. Mitteis, U. Wilcken, <i>Grundzüge und Chrestomathie der Papyruskunde</i>

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Hippocrates as Galen's Teacher

Jacques Jouanna

Summary

Starting from the frescoes of the cathedral of Anagni which present an obvious relationship between Hippocrates as Galen's teacher and the medieval image of man's place in the universe dominated by the number four, this paper returns to the origins of this quaternary theory in Hippocratic medicine with the four humors (*Nature of Man*), then follows its evolution in Galen and finally into late Greek and Byzantine medicine where the quaternary division will have an unprecedented extension, with the four temperaments. In particular, a new piece of evidence from this late period attributed to Hippocrates (the small treatise of Greek Medicine *The Pulse and the Human Temperament*) appears as the veritable source of the Latin *Letter* attributed to Vindicianus. Therefore, contrary to what was believed until now, the doctrine of the four temperaments was not elaborated first in a Latin form. Throughout its history, the quaternary theory will remain connected to Hippocrates, but the image and teaching of the Father of Medicine will change as the theory evolves. A second rediscovered treatise of the late period (*The Formation of Man*) starts with this phrase: 'Words of Hippocrates to Galen his own pupil'. This seems a felicitous commentary to the medical scene in the cathedral of Anagni.

Let us go south of Rome to the crypt of the cathedral of Anagni, whose thirteenth-century frescoes are world-renowned.¹ Let us raise our heads to one of the vaults which presents to us an image of man's place in the universe during this period of the western Middle Ages [Illustration 1]. Everything is organized in concentric circles, divided into quadrants. The two outside circles are those of the world. The outermost circle comprises the four elements – air, fire, water, earth. The innermost circle is that of the seasons – spring, summer, autumn, winter. The correspondence between elements and seasons is achieved through the intermediary of identical elemental qualities. Starting from the north-

¹ For the frescoes of the cathedral of Anagni, see Toesca (1994); Giammaria (2002); Marcone (2006).

west quadrant and proceeding in a clockwise direction, one finds first of all air, hot and wet (with the Latin inscription *calidus et humidus*), with which corresponds the wet and warm spring (inscription *ver humidum et calidum*). Then in the north-east quadrant there is fire, hot and dry (inscription *ignis calidus et siccus*) and summer, which is equally hot and dry (inscription *estas calida et sicca*). After that, in the south-east quadrant, earth, cold and dry (inscription *terra frigida et sicca*) and autumn, cold and dry (inscription *autumnus frigidus et siccus*). Finally, in the south-west quadrant, water, cold and wet (inscription *aqua frigida et humida*) and the cold and wet season (inscription *frigida et humida*). In each of the four quadrants there are, then, for the two outside circles the constituents of the world that are defined by the same elemental qualities. Here then is the representation of the world constituted of four elements and four seasons, which correspond to each other by the predominance of two of the four elemental qualities. Let us continue our reading of these concentric circles by going from outside to inside. After an empty circle, blue in color, which marks a separation, one comes upon the circle devoted to man. The outermost circle comprises an inscription that is difficult to read, which fills the entire circle; it starts from the northwest quarter and finishes in the south-west quarter. It can be restored as follows: *Minorem mundum sic eadem formant elementa*, which can be translated as: 'The same elements thus form the small world.' By 'small world' evidently must be understood 'man.' This inscription, by affirming that there is an identity, or at least a correspondence, between the constituents of the world and man, confirms that the order in which one reads this representation of the world and of man ought to start, as we have done, from the outer circles involving the great world, and then going to the interior circles related to the little world.

Let us now enter into this little world. The circular surface which one encounters next, the largest of all, ought to be read by taking up again the quadrants in the same order. So let us again start from the north-west quadrant, where, as far as the world is concerned, there were air and spring. What do we find for man? Two inscriptions. One, the outermost, indicates age, childhood (*pueritia*), the other signifies the predominant humor, blood (*sanguis*). Even though the elemental qualities are not explicitly indicated for man in the inside circles, for there was not sufficient space, it is clear that infancy is hot and wet, like spring, and that blood is hot and wet, just like air. In the north-east quadrant, we have in the same way youth (*adolescentia*) and yellow bile (*colera rubra*), corresponding to summer and fire, the entirety

being hot and dry. In the south-east quadrant are maturity (*juventus*) and black bile (*melancolia*) corresponding to autumn and earth, the entirety being cold and dry. Then in the last quadrant old age (*senectus*) and phlegm (*fleuma*), corresponding to winter and water, the whole being cold and wet. The ages are also represented in four medallions. Thus man is formed of four humours – blood, yellow bile, black bile, phlegm – corresponding to the four elements of the Universe – air, fire, earth, water – and he is divided into four ages – childhood, youth, maturity, old age – corresponding to the four seasons. In the last circular band, a new inscription takes up the whole circumference: *Microcosmus id est minor mundus*. This signifies that man is 'a microcosm, that is, a little world.' Then in the centre man is represented by a naked male figure with the Latin inscription HOMO. Here, then, we have the representation of the universe and of man on the vault.

This representation, dominated by the number four, could be compared to schemas presented in the oldest Latin manuscripts.² For example, a ninth-century Paris manuscript (Lat. 5543, fol. 136). It presents a similar circular schema with a representation of the four elements of the world (*mundus*), the four seasons of the year (*annus*), and the four humors of man (*homo*), defined by the predominance of two elemental qualities; but the schema is less complete, for the representation of man lacks the correspondence between the humors and the ages. In any case, to reflect the entire knowledge of the period about this quaternary theory, the Anagni schema itself should have been completed by the theory of the four temperaments defined by the innate predominance of each of the humors. One could then add in the Anagni diagram a concentric circle for man, by inscribing in each of the four quadrants, starting with the north-west quadrant, the sanguine, the bilious, the melancholic and the phlegmatic.

There is no need to insist on the extraordinary diffusion of this figuration, not only in the medieval West, but well beyond, right to the end of the eighteenth century, when Lavater still draws the portraits of the four temperaments in his *Physiognomische Fragmente* (1778): *Phlegmaticus* above on the left, *cholericus* above right, *sanguineus* lower left and *melancholicus* lower right.³

² For the schemas in the Latin manuscripts, see Wickersheimer (1914) 157-177; for the comparison with the fresco of Anagni, see Bagnoli (2001) 71-86.

³ For the diffusion of the theory in the medieval West, see the study of R. Klibansky, E. Panofsky & F. Saxl (1964), a fundamental one ranging from Antiquity to Dürer. Chapter one is entitled 'Melancholy in physiological literature in Antiquity', with references to the theory of the four qualities; chapter two is entitled 'Melancholy in

Up to this point there is nothing extraordinary in this representation of the Anagni vault, however admirable its realization. But when one's gaze descends from the vault to the wall, here the astonishment begins. What does one discover at the source of this representation of man in the universe? A doctor and not a philosopher – it is the sign that medicine can teach us as much as philosophy about man – and it is not just any ordinary doctor, as is shown by his name located above his head! It is the Greek doctor who is taken as the founder of western medicine, Hippocrates. That takes us back more than fifteen centuries. His finger raised, Hippocrates is delivering his teaching to his disciple Galen who is listening to him with deference and is writing down what he says [Illustration 2]. The two pages of manuscript presented on the two lecterns give the tenor of this instruction. The left lectern shows the constitution of the world with the inscription *Mundi presentis series manet ex elementis*, that is, 'the order of the present world is formed of elements.' The right lectern shows the constitution of creatures and consequently of man: *Ex his formantur quae sunt quaecumque creantur*, that is, 'From these elements are formed what are, whatever are created.' These two sentences are to be compared with one of the inscriptions in the vault, the one that is on the border between the world and man, where it is said that the elements of the world also form the elements of the small world, that is, man. There is therefore an obvious relationship established in the iconographic program between on the one hand the representation of Hippocrates and Galen on the wall and on the other the representation of the world and of man in the circular diagram of the vault.⁴

What connection is there between this medieval conception of man and the medicine of Hippocrates and Galen? This question invites us to return to the origins of this quaternary theory in Hippocratic medicine, then to follow its evolution in Galen, and finally in the medicine of the late period, with the larger question of the transition from Greek to Latin, from East to West. Throughout its history this theory will remain connected to Hippocrates, but the image and teaching of the Father of Medicine change as the theory evolves.

medicine, science and philosophy in the Middle Ages'. The word is preceded by Panofsky's and Saxl's first work, *Dürers 'Melencolia I'*, Leipzig, 1923. The study of R. Klibansky, E. Panofsky & F. Saxl is translated in French, entitled 'Saturne et la Mélancolie', Paris, Gallimard, 1989, cited Klibansky (1989).

⁴ The side facing of buttress left of the wall where the figures of Galen and Hippocrates are situated represents a diagram of the elements of the world, which is not of Hippocratic, but of Platonic origin; see Toesca (1994); Pressouyre (1966) 551-593.

At the root of the fascination with Hippocrates, this doctor who drew the admiration already of the philosophers Plato and Aristotle, is the existence of a medical literature of astonishing richness, a group of about sixty treatises collected under his name. Certainly this large and diverse production is not the work of a single doctor, nor of a single school, nor a single period. But it presents enough coherence in its entirety to have been read as the work of a great doctor of the classical period.⁵

Its success is due not only to respect for tradition. It is founded on reason. Hippocratic medicine is not reducible to an ensemble of prescriptions but it combines observation of the sick with an over-all reflection starting from fundamental concepts of which the Greeks were the inventors, in particular art and nature. Medicine from Hippocrates onwards is defined as a *technē*, a Greek term which covers two inseparable notions at this period, art and science, both of which are opposed to chance. The special feature of this *technē* is that it is applied to man and presupposes the knowledge of man. For to understand man is to understand his *phusis*, his nature: a fundamental operating concept unknown to other medicines of the Mediterranean basin, such as Egyptian medicine or Mesopotamian medicine.

The modern versatility of the word 'nature' should not mislead us. First, *phusis* does not denote in Greece the ambient universe, what we ourselves call 'Nature.' Greeks who were Hippocrates's contemporaries had a completely different word, derived from the notion of order, the *kosmos*. The word *phusis*, an action noun originally applied to the growth of plants or the result of this growth – as is attested by its first use in Homer with regard to a plant – has as its basic designation the nature of a plant and by extension that of a living being, then that of an inanimate object. But nature is from the outset always the nature of something. And for doctors what has priority is the nature of man.

It is precisely the Hippocratic treatise entitled *Nature of Man* that is the founder of the theory of the four humors.⁶ Man's nature is not simple but is constituted of four innate elements, blood, phlegm, yellow bile and black bile; these are in equilibrium while man is in good

⁵ See Jouanna (1999); Roselli (2000).

⁶ For a more detailed philological study on the reception of the founding treatise, see Jouanna (2006a) 123-147 (with the bibliography).

health, and in disequilibrium when he is ill. Here is the basis of the theory which all of western thought since Galen has considered as the cornerstone of Hippocrates's teaching.

However, in its day, the fifth century before our era – this must be said firmly – this was only one theory of the humors among others. The dominant conception was that of two pathogenic humors, bile and phlegm, blood being the humor of health. In the whole of the *Hippocratic Corpus* this is the only treatise to present such a vision of the nature of man. Thus, it was isolated. What is more, one can deduce from information given by Aristotle that this treatise was not the work of Hippocrates but of his disciple and son-in-law Polybus. There was nothing, then, in the medical context of the period to promise a brilliant future for our theory. One might even suspect that it was born less from observation – even though the author appealed to it – than from the desire to establish a quaternary schema. For that purpose, two varieties of bile were rather arbitrarily transformed into two independent humors: the birth-certificate of black bile which was eventually to play a large role in the development of melancholy, whose posterity was shown with such success in the recent account by Jean Clair in Paris that an American newspaper saw there the sign of the melancholic humor of the French.⁷

Nevertheless, in spite of its isolation at its birth, this theory had in itself some advantages. First of all, it had the merit of being presented with an exceptionally demonstrative clarity: each humor has its proper nature, proven by the evidence of the senses (sight, touch) and also by medical practice (evacuants of choice for drawing each humor). Next, it had the merit, by its quaternary system, of putting man right from the start in touch with his milieu. The four humors vary following the cycle of the four seasons, according to a law founded on the very notion of nature: each humor is highest in the body according to the season which conforms to its nature.

Now, health or sickness being defined, as we saw, as the equilibrium and disequilibrium of the humors, the result is that the natural disequilibrium produced by the cycle of the seasons is predisposed to illnesses which are seasonal. Such a nosology determines a prognosis which is itself founded on the law of the seasonal cycles, illness appearing in the season which conforms to its nature, and disappearing in the season which is contrary to it. This nosology determines as well a therapeutics which, aiming at the re-establishment of equilibrium,

⁷ Clair (2005).

operates by contraries, that is, by a treatment of a kind opposed to the season in which the illness is produced.

If one adds a final correspondence between the humors and the ages, set forth in connection with black bile which predominates not only in the season of autumn but also in the period of life between twenty-five and forty-two years, one has there the basic underpinning of the theory establishing a connection between the humors, the seasons and the ages.

What remains is to mark its limits in order to measure precisely the later developments. There is not yet anything corresponding to the outer circle of the Anagni schema: the elements of the Universe. And this is for a reason of method. From the beginning of his treatise the author of *Nature of Man* rejects, in the name of observation, any conception of the nature of man which goes beyond the strict domain of medicine. In addition, he does not want to be understood as speaking of a man who would be air, fire, water, earth. Finally, there is not the slightest beginning of a theory of the four temperaments.

The author of *Nature of Man*, the inventor of black bile, is certainly not the inventor of the melancholic temperament.

What, then, happens to this theory in Galen, to whom we owe the second great monument of western medicine, vaster than the first even though it was erected by one man, in the second century AD? Thanks to Galen, the figure of Hippocrates the founder remains intact, supported by the respect of the man who idealizes him so that he might better cast himself as his continuator. This is in spite of considerable political evolutions, despite the displacement of the Greek medical centres to Alexandria and Pergamum, decisive advances in anatomical medicine, in spite of the evolution of philosophy with the appearance, starting with Aristotle, of a conception of nature based on finality, the figure of Hippocrates the founder remains intact, supported by the respect of the man who idealizes him so that he might better cast himself as his continuator. And we must recognize that the theory of the four humors would not have had such an exceptional destiny, had not Galen intervened.

A first decisive intervention: Galen, who composed in a rather exceptional way two commentaries on the treatise *Nature of Man* at different moments in his career, attributes to Hippocrates personally the theory which was the work of his disciple, and he makes this

Hippocrates the pioneer of research into the nature of beings.⁸ From his first commentary, *On the Elements according to Hippocrates*, which is synthetic, he affirms,

Hippocrates is manifestly the very first to have discovered the elements of the nature of beings and the first to have demonstrated them in a satisfying manner. Galen, *De elem. sec. Hipp.* 1.9 (134,13-15 De Lacy; 1.487.8-9 K.).

The repetition of the word 'first' is significant. According to Galen, Hippocrates is the first discoverer of the primary elements of the nature of beings, but also the first inventor of the demonstration.⁹

It is in his second commentary, which is analytic, the *On Hippocrates' 'Nature of Man'*, that Galen provides the proof of what he is proposing: it is the connection between the treatise on *Nature of Man* and the celebrated passage in the *Phaedrus* where Plato makes reference to the method of Hippocrates.

Hippocrates certainly was known to his younger contemporary Plato, who mentions him in two of his works. In one of the dialogues of his youth, the *Protagoras*, Plato presents, in a lively way, Hippocrates of Cos the Asclepiad as the representative *par excellence* of the medical art, in the same way as Polyclitus of Argos and Phidias of Athens were representatives of the art of sculpture. Plato alludes to Hippocrates again in one of the dialogues of his maturity, the *Phaedrus*. It is this second allusion which is of interest to us here. Socrates is seeking to define a genuine art of rhetoric. According to him, this art presupposes knowledge not only of public speaking but also of the psychology of the audience whom one needs to persuade. One must therefore understand the nature of the soul of the listeners. Then, in the course of the dialogue between Socrates and Phaedrus, Hippocrates's method of understanding the nature of the body is chosen as the model for understanding the nature of the soul. I draw attention to the beginning of the passage where Hippocrates's method is introduced. When Socrates asks the question, 'But the nature of the soul, do you think one could understand it perfectly without knowing the nature of the whole?', Phaedrus replies, 'Well, at least if one is to believe Hippocrates, of the family of the Asclepiadai, it is not possible to acquire knowledge of the body without this method (*aneu tēs methodou*

⁸ See Jouanna (2003) 245-247.

⁹ For that reason Galen is speaking in the same passage of 'science of Hippocratic nature' (τὴν Ἱπποκράτειον φυσιολογίαν): Galen, *De elem. sec. Hipp.* 1.9 (134,3 ff. De Lacy; 1.486.11 K.).

tautēs).¹⁰ Following this comes the exposition of Hippocrates's method on the nature of the body. It consists of asking whether the object whose nature one is investigating is simple or complex, and if it is complex, of distinguishing the different elements of which it is composed and determining their properties. Now Galen, in the preamble of his *On Hippocrates' 'Nature of Man'*, after citing this passage, states:

Those who chatter at random would have to have read this passage and examined to which of Hippocrates's works the method which Plato is praising was assigned. For it will appear that it is to none other than the treatise which is currently our subject, the treatise on the nature of man, and that Hippocrates is there trying to find out first of all in the subject of the body of man whether it is simple or multiform, and then as well each of the other points which Plato mentions. Galen, *In Hipp. Nat. Hom. comment. prooem.* (9,4-10 Mewaldt; 15.12-13 K.).

Galen, therefore, sees a necessary relationship between Hippocrates's method in Plato's *Phaedrus* and the method of the author of *Nature of Man*. From it he draws two conclusions which appear to him of primary importance, for Hippocrates as well as Plato. Concerning Hippocrates, the treatise on *Nature of Man* is really from the hand of the great doctor of Cos, contrary to what certain detractors think, since 'Plato himself is not unaware of it.' Concerning Plato, to repeat Galen's terms themselves, he judged it right to 'imitate' (*mimēsthai*) the method of Hippocrates on the nature of the body while examining the nature of the soul.¹¹ Galen does not hesitate then to see in the Plato of the *Phaedrus* a continuator of Hippocrates, author of the beginning of *Nature of Man*.

Consequently in Galen's eyes Hippocrates, by his method which consists in the breaking down of every being into its primary elements, becomes Plato's master and also the initiator of all subsequent philosophical research into nature, after Plato, by Aristotle and the Stoic school. Hippocrates, model of the excellent doctor, is also a philosopher, to use the title of a small work from the end of Galen's career.

One can certainly ask how Galen manages to reconcile this personal view of the history of philosophy, where Hippocrates plays a role of the first order, with the traditional view which he himself outlines at the beginning of his *On Hippocrates' 'Nature of Man'*. There he mentioned

¹⁰ Pl. *Phdr.* 270c.

¹¹ Galen, *In Hipp. Nat. Hom. comment.* 1.42 (54,10 Mewaldt; 15.103 K.).

the ancient philosophers prior to Hippocrates and Plato, who were called *phusikoi*, such as Empedocles, Parmenides, Melissus, Alcmeon and Heraclitus, and he realized that they had already investigated those elements of the body that were susceptible being generated or destroyed.¹²

Nevertheless, this pre-eminent role that he attributes to Hippocrates in the history of natural philosophy contributed in a decisive manner to giving the theory of the four humors special prominence in the history of medicine relating to the humors. Furthermore, this philosophical dimension attributed to the Father of Medicine is crucial for understanding how, later, in the medieval period and notably here, in the Anagni fresco, Hippocrates could have been chosen as the author not only of an anthropology but also a cosmology.

Here, then, is the decisive intervention of Galen. Furthermore, Galen perfected the theory of the four humors. He made more explicit the correspondence of the ages with the humors and the seasons, which was only alluded to in the founding treatise, and, above all, he introduced two new orientations.

The first follows from the new image of Hippocrates the philosopher. In Galen there appears what is the external circle of the Anagni representation: the correspondence between the humors and the elements of the world (fire, air, water, earth). He also gives a cosmological orientation to what was centered on man in the Hippocratic treatise *Nature of Man*. However, this correspondence is not yet definitive. As in the Anagni schema, yellow bile corresponds to fire, black bile to earth and phlegm to water. On the other hand, blood does not correspond to a particular element, air, as in the schema of the fresco, but it is the mixture of four elements, fire, earth, water and air.¹³

The second new orientation is the appearance of the theory of the temperaments. But here, too, there is nothing completely systematic. Even though Galen was persuaded of the influence of the body's state on that of the soul, he did not believe that phlegm could have an effect on intelligence and character.¹⁴ And above all, when Galen is expounding his own theory of the temperaments, specifically in his treatise entitled *On Mixtures*, he bases his analysis not on the humors

¹² Galen, *In Hipp. Nat. Hom. comment.* prooem. (5,10 ff. Mewaldt; 15.5 K.).

¹³ See Galen, *De plac. Hipp. et Plat.* 8.4 (502,22 ff. De Lacy; 5.671-679 K.). Cf. Orib. *Libri Incerti* 1.4-5, ed. Raeder (CMG VI.2.2), 75, 21-76, 5.

¹⁴ See Galen, *In Hipp. Nat. Hom. comment.* 1.40 (51,16 f. Mewaldt; 15.97 K.): 'The nature of phlegm is useless for the character of the soul'.

but on the various mixtures of elemental qualities (hot, cold, dry, wet). Thus he distinguishes nine temperaments, four in which one elemental quality is dominant, four where two elemental qualities dominate, and finally a single good temperament formed from the perfect and equilibrated mixture of the four elemental qualities. Galen calls himself the discoverer of this good temperament. So we are far from the theory of the four temperaments based on the predominance of each humor.¹⁵

Indeed, Galen does not see any contradiction between his theory of the temperaments and the theory of the four humors. In fact, in his *On His Own Opinions*, where he summarizes his positions at the end of his life, a treatise known hitherto only in an Arabo-Latin translation and whose Greek text has just recently been discovered by the 'Greek Medicine' team of Paris, directed by Véronique Boudon-Millot, Galen gives two separate and independent accounts, one regarding the temperaments based on the elemental qualities (chapter five) and the other based on the four humors (chapter Twelve).¹⁶ But that only makes clearer the idea that Galen was no promoter of a theory of the four temperaments based on the predominance of the four humors.

We must then rid ourselves of the illusion that the theory of the four humors, and of four temperaments based on the predominance of the humors, reached its definitive expression in Galen. It was not fully worked out and it is not central.

It is only some centuries later that the theory will find its full expression, in late Greek and Byzantine medicine where the quaternary division will have an unprecedented extension. And there, again, one finds the authority of Hippocrates, but a Hippocrates different from Galen's Hippocrates.

Under the name of Hippocrates there appeared in this period a medical literature, still poorly explored, which presents the final working out of the theory. The most elaborate form known so far is to be found in the Latin tradition: a *Letter* attributed to Vindicianus, a doctor of the province of Africa in the fourth century AD, who was well regarded by Saint Augustine: the Letter of Vindicianus to his

¹⁵ Galen, *De temper.* 1 ff. (1.509 ff. K.). Cf. *Ars med.* 8 (295-299 Boudon): the physical or intellectual differences are dependent of the elementary qualities (especially of the brain) and not of the humours.

¹⁶ Galen, *De propr. plac.* 5 (66,20 ff. Nutton) and 12 (94,18 ff. Nutton). For the Greek text of these passages see Boudon-Millot & Pietrobelli 168-213 (2005).

grandson Pentadius. This letter had a decisive historical influence. It was, directly or indirectly, the principal source of the theory in the medieval period, as Klibansky decisively showed in his monumental history of melancholy.¹⁷ Now the author of the *Letter* claimed to have translated into Latin what he had found to be most essential – or most secret – in the books of Hippocrates (*ex libris Hippocratis intima latinavi*).¹⁸ However, it would be quite difficult to find in the Renaissance Hippocrates the Greek model of such a systematic account. Was, then, the assertion of a Latin translation going back to a Greek Hippocrates pure fantasy?

To reply to the question asked, I would like to introduce a new piece of evidence. It is a small treatise of Greek medicine *The Pulse and the Human Temperament* attributed to Hippocrates, mentioned by H. Diels in his catalogue of Greek medical manuscripts, but whose content remained unknown. When I was recently reading this treatise in a Paris manuscript, you can imagine my surprise when I discovered that it corresponded exactly to the account of the theory of the four humors in the Latin letter of Vindicianus. I published a provisional edition in the *Mélanges Hurst* in 2005,¹⁹ and I compared the Latin letter of Vindicianus with its Greek model in an article in the *Revue des Études grecques* of the same year.²⁰ Without entering here into the details of the proof, I shall simply indicate that the order of the sections and their contents in the body of the Letter attributed to Vindicianus are identical to those of the small Greek treatise in nine out of ten sections. Here are the sections:

- 1) Statement of the four humors which constitute man;
- 2) Places in the body where each of the humors dominate;
- 3) Qualities proper to each of the humors;
- 4) Seasons in which each of the humors is dominant;
- 5) Hours in which each of the humors is dominant;

¹⁷ For the text of this letter see Theodorus Priscianus, ed. Rose (1894) 485 ff. For the bibliography see *Bibliographie des textes médicaux latins* (1987) 154 f. and *Supplément* (2000) 52 f. For the influence of the *Letter* in the Middle Ages see Klibansky (1989) 172 ff., 182 note 140.

¹⁸ Theodorus Priscianus, ed. Rose (1894) 485, 5 f.

¹⁹ Jouanna (2005b): from two manuscripts, the one in Paris noted by Diels (*Par. Suppl. grec* 1254, of the fourteenth century), the other in Milan, unknown to Diels: *Ambr. gr.* 331 (F 23 Sup.) of the fifteenth century.

²⁰ Jouanna (2005c): bringing in a new element, a second Paris manuscript (*Par.gr.* 2494 of the fifteenth century).

- 6) Places through which each of the humors is emitted;
- 7) Ages in which each of the humors is dominant;
- 8) Action of the humors on character and intelligence, that is, the four temperaments;
- 9) The pulse proper to each of the four humors.

But in the article in the *Revue des Études grecques*, which is purely philological, I did not point out the historical importance of this discovery, something I would like to do today. This rediscovery allows a response to the question posed: the Latin letter attributed to Vindicianus was indeed translated from the Greek and, we are able to add, directly without any Arabic translation. Conversely, the correspondence with the Latin letter gives to the rediscovered Greek treatise a totally exceptional historical value. This new treatise appears as the veritable source of the theory of the four temperaments which was diffused during the Middle Ages in the West through the intermediary of the Letter of Vindicianus. Therefore, contrary to what was believed until now, especially following Klibansky,²¹ this doctrine was not elaborated first in a Latin form, but rather in a Greek form.

This new treatise presents what was, in the late period, considered to be the authentic teaching of Hippocrates. Now what is this teaching? It is the theory of four humors, but it achieves a degree of systematization unknown previously.

Of course, the foundation remains the same: the four innate humors, each defined by four elemental qualities; as well, the variations which these permanent elements undergo under the influence of the cycle of the seasons, and also of the ages. But the systematization is reinforced by an expanding penetration of the figure 'four': four are the places in the body where each humor resides – black bile is connected to the spleen, and so this will give rise to melancholy! – there are four exits which they are expelled; and of four kinds are the pulsations corresponding to each of the four humors. Without claiming exhaustiveness, I will go right to the essential systematization, that which had the greatest effect on the history of medical and philosophical thought in the West. This is the penetration of the figure four in the theory of the temperaments. Totally absent from the treatise *Nature of Man*, this theory had not yet been completed in Galen, as we saw. Now in the late period of Greek medicine, it is generally admitted, as a sort of dogma, that there are four types of physical and moral

²¹ See Klibansky (1989) 169.

temperaments that correspond to the innate predominance of each of the four humors. Here is how the recently discovered Greek treatise, the source of the Latin tradition, puts it:

The humors act upon the morale and the intelligence. Blood renders man handsome of body, open, cheerful, graceful, jocular and smiling. Yellow bile renders man completely bitter, irascible, swept away by anger; black bile renders man completely insidious, envious, extremely worried, weighed down and a heavy sleeper. Phlegm renders man completely handsome in body, alert, modest and blushing easily. Pseudo-Hippocrates 8 (452 Jouanna).

Henceforth one finds the clear and differentiated assertion of the effects produced by the natural predominance of each of the four humors on one's physical state and morale.

But it would be simplistic to suppose that all the Greek texts that present this theory of the four temperaments, whether or not they are attributed to Hippocrates, offer identical portraits of each of the temperaments. One would have to distinguish different groups of texts which do not go back to the same source. This is a field of research in uncharted territory which I cannot expound here, for it is too technical. I will simply point out that one can arrive at reversed descriptions. While the description of the sanguine and the bilious individual remain generally stable, one being joyful and the other irascible, there is a reversal which can take place between the melancholic and phlegmatic types. For one group, the melancholic is a sleeper and the phlegmatic is alert. This is the tradition which we have just seen, diffused in Latin by the letter of Vindicianus. For the others, it is the phlegmatic who is a sleeper, while the melancholic is alert. This is the tradition which one will meet in the school of Salerno and in the Venerable Bede.²²

From the importance accorded to the four temperaments in this third period of Greek medicine there is also a new consequence for nosology. The illnesses which vary according to the seasons and the ages in the founding treatise on *Nature of Man* now vary according to the temperaments.

This relationship is not totally new in the history of Greek thought, since, from Aristotle's *Problems* onward, the melancholic temperament was put into relation with the illnesses caused by black bile. But the famous problem on melancholic genius was not inserted in the theory

²² For the school of Salerno, see *Flos medicinae* 1,184; for the Venerable Bede see *De temporum ratione* chapter 35 (392 f. Jones).

of the four humors and had no effect on the development of the theory of the four temperaments in later Greek medicine.

This new nosology, is well set forth on the other hand, in a second Greek treatise attributed to Hippocrates which I rediscovered, entitled *The Formation of Man*, which I published in 2006.²³ This treatise does restrict itself, in fact, to merely stating the physical and moral differences between the four temperaments; it sets forth the illnesses that are peculiar to each among them. Now melancholy is not among the illnesses caused by black bile, which proves that in the late period the melancholic temperament functions in a manner rather independent of the disease called 'melancholy.' This second treatise offers another point of originality. It poses a new question in relation to everything that was known. Why and how is one born with a sanguine, or bilious, or melancholic, or phlegmatic temperament? To a new question, a new reply. To the annual cycle of the humors there is added a daily cycle, already attested in the Greek model of Vindicianus. Each humor predominates by turns during the day and during the night. The infant's temperament will then depend on the hour of conception. Here one can see the appearance for the first time in the history of medicine the beginning of chronobiology.

All these innovations and systematizations credited to Hippocrates in fact pose a question about the image of the Father of Medicine in this third stage. Was it known as well that the origin of the theory went back to the treatise on *Nature of Man*? Nothing is less certain, for never is the slightest reference made to this founding treatise. The theory operates from then on in an autonomous way, cut off from its roots. It was cut from the true Hippocrates, but also from Galen, whose works were not cited either.

And yet the paradox is that these late treatises, encompassing the most elaborate stage of the theory of the four humors, were quite often attributed to Hippocrates, Galen's master. The second rediscovered treatise starts with this phrase: 'Words of Hippocrates to Galen his own pupil.'²⁴ This is the new Hippocrates, whom I am calling the 'other' Hippocrates, who was the source of the medieval imagination and of course of the medical scene in the cathedral of Anagni. Could one find a more felicitous formula to provide a commentary on it? Still, one

²³ Jouanna (2006b) 273-319.

²⁴ Jouanna (2006b) 298 app. crit.: the sentence precedes the title in *Par. gr.* 985; s. XV (sigle P); cf. also the phrase 'explication by Hippocrates to his own pupil Galen' in *Ambr. gr.* 331 (F 23 sup.), s. XV (sigle A).

could register surprise at finding these two doctors of the fresco in a Christian context. They are represented, in fact, directly above the apostles, who are, moreover, four in number. But the second rediscovered Greek treatise was itself edited in a Christian milieu.²⁵ Here, then, are two separate links established between the Greek tradition and the Latin iconography.

But in passing from the Greek to the Latin, the theory was enriched with a final correspondence. The name for 'man' in Latin, *homo*, in contrast to from the Greek word *anthrōpos*, is reduced to four letters which enter into the system. And the artist of the fresco has cleverly exploited the correspondence, by distributing each of the four letters of *homo* into each of the four quadrants, thus indicating the order in which they should be read. One must begin with spring and infancy where blood and air dominate, in order to move to summer and youth where yellow bile and fire are dominant, then to autumn and maturity where black bile and earth dominate, and finally to winter and old age, where phlegm and water dominate. Latin humanism was thus more adapted than Greek anthropology to the insertion of man's nature into a quaternary theory, by a sort of harmony which must have seemed pre-established between name and reality.

It remains to ask at what moment the theory of the four humors and four temperaments appeared in the form in which it was elaborated after Galen and passed from Greek to Latin. When did what I am calling the third period of Greek medicine begin? It is useful to bring in here an important correction in relation to Klibansky's reference work. He proposes to take back all the way to the third century of our era the most elaborated state of the theory, by relying on a piece of Latin evidence, Pseudo-Soranus, *Isagōgē Saluberrima*, which, according to him, ought to be a century earlier than the Letter of Vindicianus. But I showed in the article, already mentioned, in the *Revue des Études grecques* of 2005, that this Pseudo-Soranus in fact derives from the tradition of the letter of Vindicianus.²⁶ Ought one to think that the quaternary theory was already in existence in the fourth century of our era, the period of Vindicianus? The whole problem is knowing if the *Letter* which is attributed to him is authentic. Now, one can doubt its authenticity, for analogous accounts in Greek or Latin are attributed here to Hippocrates, there to Soranus of Ephesus, there to Galen, there

²⁵ Jouanna (2006b) 298-299 (a Christian definition of mankind).

²⁶ Jouanna (2005c) 147 ff. Cf. Fischer (2000) 20, note 45.

to John of Damascus.²⁷ The theory of the temperaments was in existence, in any case already at the beginning of the eighth century, for it appears in the Venerable Bede in a work precisely dated to 725.²⁸ I put forward elsewhere the hypothesis that this theory could be brought into relation with the second renaissance of Greek medicine at Alexandria in the sixth century of our era. To be sure, it is only a hypothesis, one that awaits the discovery of other new documents.²⁹

In conclusion, the theory of the four humors, born in the Greek medicine of the classical period, became progressively richer in the Roman period, and especially the late and Byzantine period. It was transmitted directly from Greek to Latin in a translation whose link has now been rediscovered. This representation of man will continue for a long time, in spite of the progress of science, to haunt the spirits... even of musicians. In the first half of the twentieth century, Symphony Opus Sixteen of the Danish composer Carl Nielsen, then the Variations by Paul Hindemith, with their four movements corresponding to the four temperaments, are a brilliant illustration of it.³⁰

²⁷ For John of Damascus, I allude to *Quid est homo?* See Jouanna (2005a) 1-27, with complements in Jouanna (2005c) 156-157.

²⁸ See *supra* note 25.

²⁹ Jouanna & Mahé (2004) 582 f. and for more details Jouanna (2006a) 144-147, with a complement in Jouanna (2005c) 167 note 44.

³⁰ I would like to thank warmly my friend Anthony Podlecki for this translation.

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Illustration 1. Man's place in the universe. Fresco on the vault in the crypt of the Cathedral of Anagni, Lazio, Italy, thirteenth century AD.



Illustration 2. Hippocrates and Galen debating. Fresco in the Cathedral of Anagni, Lazio, Italy, thirteenth century AD.

I. Doctors and laymen

Textual Therapy On the relationship between medicine and grammar in Galen¹

Ineke Sluiter

Summary

In this paper we will explore some ancient ideas about the relationship of grammar and medicine. There are two grounds for expecting that the great doctor-philologist Galen would talk of (deficient) texts in terms of patients to be healed. One is the ancient grammatical tradition classifying medicine and grammar as sister disciplines. The other is the extensive tradition of using biological and medical metaphors for language and texts. However, it will turn out that medical overtones are significantly absent from Galen's rhetoric about philology and from his own linguistic metalanguage. Instead of comparing the remedying and corrective activities of the doctor and the textual critic, he connects medicine (and to some extent texts) with weaving and architecture. In fact, this corresponds to his own, alternative classification of the sciences. We seek an explanation for this state of affairs in Galen's general anxiety to be taken for a philologist or grammarian rather than a serious doctor. This may have led to a refusal to dignify grammar by applying medical terminology to it. However, the aversion he claims for the grammarian can be shown to be mostly a rhetorical posturing, since Galen does talk about medical and grammatical *practice* in similar and revealing terms: curing a patient and fixing a text require moral courage, and this sets these activities apart from morally irrelevant ones such as house-repair and clothes-mending.

Introduction

In Antiquity (as now), the education of an upper-level doctor did not begin as *medical* education. Just like other children, the future doctor

¹ I would like to thank the organizers of the Colloquium Hippocraticum 2005 for their kind invitation. Klaas Worp, Folkert van Straten, Jim Porter, Ralph Rosen, and Jaap Mansfeld helped me with various suggestions. Daniela Manetti kindly showed me a preprint of her forthcoming paper. Joris Stolwijk assisted in collecting material, and Joëlle Bosscher in preparing the text for publication. I owe thanks to all.

would be instructed by the *grammatikos* first.² At the grammarian's school he would not just learn to read and write, but also how to read the poets, and the principles of the art of grammar. Sometimes, things did not go well and grammatical studies were discontinued prematurely – but in that case likelihood is you would not get a very good doctor either:

Ἰητήρ τις ἔμοι τὸν ἔδον φίλον υἱὸν ἔπεμψεν,
 ὥστε μαθεῖν παρ' ἔμοι ταῦτα τὰ γραμματικά.
 ὥς δὲ τὸ “μῆνιν ἄειδε” καὶ “ἄλγεα μυρί' ἔθηκεν”
 ἔγνω καὶ τὸ τρίτον τοῖσδ' ἀκόλουθον ἔπος
 “πολλὰς δ' ἰφθίμους ψυχὰς Ἄϊδι προΐαψεν,”
 οὐκέτι μιν πέμπει πρὸς με μαθησόμενον.
 ἀλλὰ μ' ἰδὼν ὁ πατήρ “Σοὶ μὲν χάρις,” εἶπεν, “ἐταῖρε·
 αὐτὰρ ὁ παῖς παρ' ἔμοι ταῦτα μαθεῖν δύναται·
 καὶ γὰρ ἐγὼ πολλὰς ψυχὰς Ἄϊδι προΐαπτω
 καὶ πρὸς τοῦτ' οὐδὲν γραμματικοῦ δέομαι.”

A doctor sent his dear son to me
 to learn his grammar with me.
 But when he knew his ‘Sing the wrath’
 and ‘gave a thousand woes’
 and the third verse, that follows these,
 ‘sent many valiant souls to Hades’,
 his father stopped sending him to me to learn.
 But when he saw me, he said, ‘Thanks a lot, fellow.
 but my son can learn those things with me:
 I also send many souls to Hades
 and I definitely do not need a grammarian for that’.
Anthologia Palatina 11.401 (Lucilius).

This text starts out just fine. The grammarian, who is the speaking ‘I’, tells us how a doctor's son – who will presumably go on to follow in his father's footsteps – comes to study grammar first. He gets started, as usual, on the first lines of the *Iliad*. But then his education is discontinued at the insistence of his father – his grammatical education, that is, for he will learn to kill patients with or without grammar.³

This terrible father and others like him bother Galen. In fact, Galen is appalled – or claims to be – at the effects of the alleged lack of such

² This is not mentioned by Kollesch (1979), who is not concerned with these preliminary stages of education.

³ For another poorly educated doctor who does not know his Homer, see *Anthologia Palatina* 11.61.

elementary training in contemporary doctors. His own father did him the great service of giving him a sound training in grammar as in everything else.⁴ Of course, Galen's rhetorical points cannot and should not be taken as straightforwardly indicative of a real decline in the standards of grammatical training. His perception of this decline, though, causes him to write the treatise *On My Own Books*, because the modern young doctor cannot tell an obvious forgery from the real thing; in fact they do not even know how to read properly anymore;⁵ elsewhere, their ignorance means they are too stupid to do a proper forgery of a Hippocratic work, using fake archaic words, that were in fact never used by the great doctor.⁶ They also make elementary mistakes in interpretation, which force Galen, under loud protests and apparently against his will and under duress, to set everyone straight again in long passages dealing with questions of language and interpretation.⁷

Galen may be clear about the importance of a knowledge of grammar,⁸ in fact he insists on it,⁹ yet at the same time, he constantly reminds us that this grammar should be propaedeutic only, that grammar and normative correctness of speech are ultimately irrelevant, that attention to matters of language is futile and pedantic, and that he hates to be made to spend so much time on it.¹⁰ In short, grammar is

⁴ See Galen, *De ord. libr. suor.* (19.59 K.).

⁵ Galen, *De libr. propr.* prooem. (19.9 K.) οἱ πολλοὶ δὲ τῶν νῦν ἰατρικὴν ἢ φιλοσοφίαν μετιόντων οὐδ' ἀναγνῶναι καλῶς δυνάμενοι φοιτῶσι παρὰ τοὺς διδάξοντας τὰ τε μέγιστα καὶ κάλλιστα τῶν ἐν ἀνθρώποις. I.e. they skip the basis education and thereby lack the foundation to tackle well the difficult and elevated subjects in which they are interested.

⁶ Galen, *In Hipp. Nat. Hom. comment.* 2.22 (15.172 f. K.) claims that the word σύνοχος like the word οὐρημα was never used by Hippocrates, but is used by younger doctors to imitate archaic usage – wrongly: ταῦτα ὀνόματα νεωτέρων ἐστὶν ἱατρῶν, ὅσοι τὴν παλαιὰν λέξιν ἡγνόησαν.

⁷ Cf. Sluiter (1995b) 195.

⁸ The *Scholia* on Dionysius Thrax support his view: grammar is necessary for all the 'logical' arts, for subtle differences in meaning often depend on matters of accent (πρωτότοκος is a first-born child, πρωτοτόκος a mother who gives birth to her first child), spelling (παιδίον, πεδίον), breathing, or punctuation/accent: Sch. DTh. 5.26 ff.; cf. 122.14 ff.

⁹ E.g. Galen, *De ord. libr. suor.* (19.59 K.).

¹⁰ Cf. Sluiter (1995a). E.g. Galen, *In Hipp. Epid. VI comment.* 1.29 (17a.879 K.) ἀναγκαῖον ἡμῖν γίνεται καὶ γραμματικῆς ἀδολεσχίας ἐφάψασθαι χρησίμης ἐνίστε καὶ αὐτῆς εἰς τὰ τοιαῦτα γινομένης. This text emphasizes the incidental usefulness of grammar, which makes it necessary to use it, but also its 'babbling'.

important to any doctor, even though Galen does not want to be just a grammarian.

If we broaden our scope in thinking about the relation between grammar and medicine, we notice two things. First, the existence of a number of texts from Antiquity claiming explicitly or implicitly that there is a great affinity between the arts of grammar and medicine. And, second, the fact that there is a long tradition of texts about language that treat language as an organism or a body. The combination of these points raises an obvious question, which will guide us in the first part of this paper: Does this state of affairs ever lead the doctor-philologist Galen to regard the Hippocratic texts, so often his point of departure, as 'patients', to be healed and taken care of by his careful medical attention? Is there such a thing as textual therapy in Galen?

Let us begin by reviewing the two points which form the basis for our suspicion that Galen may well speak about texts as if they are bodies with problems. We will begin by looking at ancient classifications of the sciences relating grammar and medicine. Then we examine the tradition of the biological (and medical) approach to language. Next we will turn to Galen's discourse about (physical, material) texts. If this discourse comes as something of a surprise, in the next section it will turn out that Galen's own views on the classification of the sciences fit it perfectly. We will then return to the point of Galen's construction of the relation of grammar and medicine and his inadvertent admission of the moral equivalence of the good doctor and the good grammarian. The last section contains the conclusion.

An ancient classification of grammar and medicine

In the grammatical tradition there is an interesting view on the relation between grammar and medicine. The late antique commentators on the school grammar ascribed to the grammarian Dionysius Thrax (second century BC) usually give us some classification of the arts in the introductions to their commentaries.¹¹ Medicine and grammar are there presented as sister-disciplines. The arts can be divided into theoretical ones (like astronomy), practical ones (like running an army or playing

¹¹ On classifications of the art, see also below, on Galen's classification of the sciences, and Tatarkiewicz (1963).

the flute), and creative or productive ones like sculpting. The fourth group is the mixed one:

Αἱ δ' ἐκ τούτων μικταί, αἱ θεωρητικοῦ καὶ πρακτικοῦ καὶ ποιητικοῦ μετέχουσιν, οἷον ἡ ἰατρικὴ κοινωνεῖ γὰρ τῷ θεωρητικῷ, ὅταν διατάττῃ τοῖς νοσοῦσι δίαίτάν τινα, **τῷ δὲ πρακτικῷ, ὅταν σμίλῃ λαβοῦσα διορθῶταί τι τῶν μελῶν τοῦ σώματος ἀσθενούντων**, πάλιν δὲ τῷ ποιητικῷ, ὅταν τῇ ὕλῃ τῶν βοτανῶν χρησαμένη ἀποτελέσῃ φάρμακον. Ἡς ἀδελφὴ ἐστὶν ἡ γραμματικὴ, περὶ ἧς τὰ νῦν πρόκειται λέγειν· καὶ αὕτῃ γὰρ τοῦ μικτοῦ εἶδους ἐστὶν· ὅταν <μὲν> γὰρ τὰς ἱστορίας διηγῇται τοῖς νέοις, κοινωνεῖ τῷ θεωρητικῷ, **ὅταν δὲ κάλαμον λαβοῦσα στίξῃ καὶ διορθῶται τὰς μὴ εὖ ἔχούσας τῶν λέξεων**, τῷ πρακτικῷ, τῷ δὲ ποιητικῷ, ὅταν τὴν ὕλιν τῶν διαλελυμένων λέξεων τέχνη καὶ μέτρῳ συναρμόσῃ καὶ τέλειον στίχον ἀπεργάσῃται.

Other [*technai*] are a mixture of these. They partake of the theoretical, the practical and the creative kinds, as e.g. medicine. For medicine takes part in theory, when it prescribes a certain diet to the sick; *it takes part in the practical type, when it takes a scalpel and corrects a sick body-limb*; it takes part in the creative type, whenever it uses botanical matter and produces a drug. Grammar, our present topic, is medicine's sister. For she too belongs to the mixed type. Whenever she explains factual information to the young, she takes part in the theoretical. *Whenever she takes hold of a pen and punctuates and corrects words that are not right*, she takes part in the practical type; and she takes part in the creative, whenever she orders through art and meter the matter of unconnected words and produces a complete verse. Σ Dionysius Thrax, GG I iii, 2.4 ff.

The most important thing to note in the context of the present paper is that fact that the verb *diorthoō* is part of the technical vocabulary of both grammar and medicine, and is used in this text to point out that they both are at least in part practical arts. The grammarian's pen (*kalamos*) is the doctor's scalpel (*smilē*),¹² and they both 'set things

¹² It can actually become as deadly as the doctor's scalpel, as in the famous motif of the school-boys' revenge, when they attack their grammar master with the instruments of grammatical practice, cf. Biele (1962). The *smilē* can stand in as the representative of the whole art of medicine, e.g. Galen, *De usu part.* 1.2 (3.5 K.), in a description of man's hand in the role of a culture hero: καὶ νόμους ἐγράψατο καὶ βωμοὺς καὶ ἀγάλματα θεοῖς ἰδρύσατο καὶ ναὺν κατεσκευάσατο καὶ αὐλὸν καὶ λύραν **καὶ σμίλῃν** καὶ πυράγραν καὶ τᾶλλα πάντα τῶν τεχνῶν ὄργανα καὶ ὑπομνήματα δ' αὐτῶν τῆς θεωρίας ἐν γράμμασιν ὑπέλιπετο.

straight', either a text or a body that has somehow gotten out of regular order or shape.¹³

The biological approach to language

The connection between grammar and medicine has a long history. When people started to study language, they also started wondering what language was *like*.¹⁴ And one early answer suggested that language was in fact very much 'like' a body, an organism.¹⁵

Meter and body parts

This is particularly obvious in the technical terminology of one of the oldest language disciplines, the study of meter (which we know existed, complete with technical terminology, in the early fifth century BC).¹⁶ In metrical theory a number of biological terms are used. Meters have 'feet' (*podes*), they can 'limp' (ἐπι χωλά),¹⁷ and Aristophanes can make jokes based on a willful confusion between human feet and metrical ones in the contest between Euripides and Aeschylus.¹⁸ One meter is called a 'finger' (dactyl),¹⁹ meters can be acephalous, or 'lacking a head' (*akephalos*), they can have a protruding belly, and will then be called *prokoilios* (when they have an extra syllable or beat in the middle of the verse); they can also be *lagaros* or 'thin-waisted',

¹³ Cf. Sch. DTh. 110.26 ff.; 112.31 ff.; 158.4 ff.; 446.1. For other passages where grammar, (rhetoric) and medicine are mentioned in one breath and opposed to other disciplines, see e.g. Sch. DTh. 6.22 ff.; 297.37; 109.36 ff. ἰστέον δὲ ὅτι, ὡς περ τῆς ἰατρικῆς τέλος ἐστὶν ἡ ὑγεία καὶ τῆς ῥητορικῆς τὸ πείθειν, τὸν αὐτὸν τρόπον καὶ τῆς γραμματικῆς τὸ τέλος ὁ Ἑλληνισμός. Of interest is also 113.15 ff. Αἴτιον οὖν ἐστὶ τῆς γραμματικῆς ἡ ἀσάφεια... (or maybe rather ἡ σαφήνεια): ὡς περ γὰρ οἱ νοσήσαντες κατ' ἐπιζήτησιν ὑγείας εὖρον τὴν ἰατρικὴν, οὕτως καὶ οἱ περιπεσόντες γραφαῖς ἀσαφέσι σαφηναίας χάριν τὴν γραμματικὴν ἐπενόησαν· ὥστε δυνάμει ταῦτόν εἶναι καὶ τὸ τέλος καὶ τὸ αἴτιον τῆς γραμματικῆς. Another notion shared by the two disciplines is that of pathology, on which see below p. 33.

¹⁴ In the classical phrase of Belardi (1985) (1969) 9.

¹⁵ See Lo Piparo (1999).

¹⁶ See Svenbro (1988) 239 ff. This part of my paper is heavily indebted to him. Note that some of the technical terminology here discussed is attested only much later – but not later than Galen. A lot of my examples derive from the *Scholia* on the metrical handbook by Hephaestion, from the second century AD.

¹⁷ E.g. Sch. B Heph. p. 288.21 ff. Consbruch.

¹⁸ Ar. Ra. 1323 f.

¹⁹ Again the occasion for a joke involving real fingers, particularly the middle one, in Ar. Nu. 651 ff.

when they are short of one beat in that position. And their ‘tails’ may be either too long or too short (*meiouros, dolikhoouros*).²⁰ There is no attempt at anatomical consistency, though, since the problems with head, belly and tail are all subsumed under the limping issue. However that may be, all these problems in meter are *pathē* and some of them can be *healed*: θεραπεύεσθαι, in which case they are not properly called *pathē*:

Τούτων μὲν οὖν τῶν ἕξ τρόπων (sc. the six types of ἔπη χωλά, with problems at the beginning, the middle or the end), ὅσοι δύνανται ...
θεραπεύεσθαι, οὐ κυρίως ἂν κληθεῖεν **πάθη**.

All instances of these six types that can be *remedied*, are not properly called modifications (or: ‘affected’, *pathē*). Σ B Heph., p. 290.8 Consbruch

Note that the problems at beginning, middle and end translate into problems with head, belly and tail or legs,²¹ and that *pathē*, here translated rather neutrally, in combination with *therapeuesthai* suggests an unhealthy deviation.²² In his intriguing paper Jesper Svenbro has claimed that the ‘tail’ in particular suggests that we are not dealing with a human body in any of this,²³ but rather with that of a sacrificial animal, and that poetry may be compared to sacrifice. The cutting up of the sacrificial animal should be done neatly, along the joints, and similarly, if one divides a meter it should be with proper caesuras (τομαί), literally: ‘cuts’) and diereses. But that is beside the point of this paper, so let us pursue the relation perceived by students of language between language and organisms.

Language as an organism

It has been known for over 35 years that Aristotle extended the scientific method developed in his biological works to his observations on language.²⁴ The search for the smallest particles of the same substance (or *homoiomere*) led to the identification of hair, flesh, blood,

²⁰ Sch. B Heph. p. 289 f. Consbruch, cf. Svenbro (1988).

²¹ E.g. κεφαλή ἔπους, 290.20, δολιχόουρον = μακροσκελές, 350.7.

²² For *therapeuesthai*, cf. *ibidem* 290.26 θεραπευθῆναι; ἀθεράπευτος, *ibidem* 290.27.

²³ Svenbro (1988) 239 with note 94 on p. 249, and note 98 on p. 250. The only other text in which οὐρά is connected with language is *Anthologia Palatina* 16.155 (Euodos), where ‘echo’ is called ‘the tail of speech’: ῥήματος οὐρήν.

²⁴ Cf. Belardi (1985) (repr. of a 1969 article), 10 ff.; Zirin (1980); Lo Piparo (1999), esp. 126-129 with parallels from the *Physics* and the biological works.

and bones, but the same principle applied to language also produced the notion of letters, which represent sounds that cannot be reduced to other sounds. In Aristotle's linguistic theory, too, we encounter terms like *arthra* 'joints', and *sundesmoi*,²⁵ which suggest links with anatomy. Not only are the smallest linguistic elements found through an analytical biological approach, but the reverse process of composition is described in the same terms when dealing with bodies and language: increasingly complex structures come into being on the basis of the combination of elementary parts or particles.²⁶ This conceptual cluster later led for example to the characterization of noun (*onoma*) and verb (*rhēma*) as the ἐμψυχότατα μέρη τοῦ λόγου 'the parts of the *logos* that are most animate, have most life in them'.²⁷

In fact, language and biology become mutual models:²⁸ language is analysed as a body, but the formation of syllables from letters becomes the paradigmatic model for the process of composition (*sunthesis*),²⁹ probably because everyone would be familiar with this model given its very early place in the curriculum. Organic composition of larger wholes is what Plato's Socrates defines as the hall-mark of the good speech-writer in the *Phaedrus*.³⁰ The later rhetorical tradition will

²⁵ Cf. Grintser (2002) 78 note 15; Janko (1987) on Arist. *Poetica*, p. 127; Ildefonse (1997) 102-115 (esp. 108). On the definitions of *arthron* and *sundesmos*, see Swiggers & Wouters (2002) 107-112; Dupont-Roc – Lallot (1980) 321-328 (who regard *sundesmoi* as conjunctive particles plus conjunctions proper, and *arthra* as expletive particles and prepositions, i.e. with Ildefonse (*l.c.*) as connectors of clauses or the signs for syntactic demarcation within propositions respectively).

²⁶ Arist. *Po.* 20. 1456b20 ff. Τῆς δὲ λέξεως ἀπάσης τάδ' ἐστὶ τὰ μέρη, στοιχείον συλλαβῆς σύνδεσμος ὄνομα ῥῆμα ἄρθρον πῶσις λόγος. Diction as a whole is made up of these parts: letter, syllable, conjunction, joint, noun, verb, case, phrase (tr. Fyfe [Loeb]). For an 'organic' interpretation of tragedy, cf. Rees (1981) 28 f.

²⁷ A.D. *Synt.* *GG* II ii.28.6 and Schneider's commentary on *Adv.* 121.5.

²⁸ Cf. Lo Piparo (1999) 128 f.

²⁹ Zirin (1980) 330 f. and Lo Piparo (1999) 127 ff. This model use of grammar is recognized even by Galen. Though very rarely, grammar may be adduced as a useful parallel for technical practice: Galen, *In Hipp. Epid. I comment.* 1.1 (17a.28 K.) ἀλλ' ἐπὶ πάσαις αὐταῖς (sc. τέχναις) ὁδὸς μία τῆς εὐρέσεώς ἐστιν, ἡ διὰ τῶν οἰκείων στοιχείων, ὥσπερ καὶ ἐν γραμματικῇ. Note that the notion of combination does not necessarily lead to an organic interpretation. For example, *sundesmoi* are called *stoiibē* 'padding' by the grammarian Trypho (*apud* A.D. *Conj.* 247.25 f.).

³⁰ Pl. *Phdr.* 264c: ἀλλὰ τόδε γε οἶμαί σε φάναι ἂν δεῖν πάντα λόγον ὥσπερ ζῶον συνεστάναι, σῶμά τι ἔχοντα αὐτὸν αὐτοῦ, ὥστε μήτε ἀκέφαλον εἶναι μήτε ἄπουν, ἀλλὰ μέσα τε ἔχειν καὶ ἄκρα, πρέποντα ἀλλήλοις καὶ τῷ ὅλῳ γεγραμμένα. 'But I do think you will agree to this, that every discourse must be organized, like a living being, with a body of its own, as it were, so as not to be headless or footless, but to have a middle and members, composed in fitting relation to each other and to the whole' (tr.

pursue this thought when they speak of the bones, tendons, muscles and flesh of oratory.³¹

Medical discourse applied to language

This is where we move from just the biological parallel (language as something organic) to the discourse of medicine as applied to language. The tradition of talking about language as if it is a body makes it easy to think of concrete utterances as being ‘healthy’ or ‘sick’, to characterize problems in language as *pathē* that can be ‘healed’, and ultimately also to conceptualize somebody who is trying to ‘fix’ aspects of a text as a ‘doctor’. The use of ‘health’ (ὕγις) terminology in technical grammar to describe a well-formed word, phrase or usage³² can probably be traced back at least to the first cent. BC and is connected with the grammarians Trypho and Philoxenus.³³ The goals of medicine, ὁλοκληρία, ὑγεία, τὸ κατὰ φύσιν, ‘wholeness, health, a natural state’, are borrowed by grammarians, who develop a theory of linguistic pathology which opposes words having undergone πάθη ‘modifications’ to ὁλόκληρα ‘whole, perfect forms’, which are ἀπαθῆ ‘unaffected, unmodified’, ἐντελῆ ‘complete’, πλήρη ‘full’, ὑγιῆ ‘healthy’, and τὰ κατὰ φύσιν ‘forms in their natural state’.³⁴

Fowler [Loeb]). Cf. Sicking (1963) 225 ff.; Svenbro (1988) 238 f. Composite unity also in Arist. *Po.* 50b.34 ff. cf. Meijering (1987) 101. An early attestation of the rhetorical link between speeches and bodies is Anaximenes, *Rhetorica ad Alexandrum* 28.1436a28-31 τάττειν τοὺς λόγους σωματοειδῶς.

³¹ Quint. *Decl.* 270.2 *ostendere ossa et nerva controversiae*. See Gunderson (2003) 70 with note 28; cf. *ibidem caro ipsa*. See also Quint. *Inst.* 1 *pr.* 24 (where Quintilian points out that one ought not let the ‘bones’ of oratory show, but should cover them with *nervi* and a *corpus*. For all these references I am indebted to König, unpubl. paper. However, cf. already Ar. *Ra.* 862, where Euripides announces his intention to attack Aeschylus on the *epē, melē* and *neura* of tragedy, where *melē* helps to negotiate the transition to a corporeal metaphor. See Svenbro (1988) 238 f.

³² Still visible e.g. in the second-century-AD grammarian Apollonius Dyscolus, e.g. *Pron.* 71.30 f. τήν τε χρῆσιν ὡς ὑγιῆ πιστοῦνται διὰ τῶν Πλατωνικῶν παραδειγμάτων; *ibidem, Adv.* 200.22 f. μάλλον κατάρθωτο τὸ ἀντικρὺ, τῆς ὑγιούς τάσεως ὑπόμνησις καθεστηκός, τὸ δὲ ἀντικρὺς ἡλόγηται βαρυνόμενον.

³³ Cf. Blank (1982) 42 f.

³⁴ For ‘healthy’ as a term used in pathology, see Lehrs (1857) 418 (= Blank 1982, note 19 p. 84). The opposition of πάθη to ὁλόκληρα etc. occurs in a description of the goals of medicine in Galen, *Subf. emp.* 81.1 ff. Deichgräber. ‘Sophists’ (rationalists) are said to couch the goal of medicine in such terms as ὁλοκληρία, ὑγεία, τὸ κατὰ φύσιν (Blank [1982] 83 note 2). See also Lallot (1995) 111 ff.; 117.

If speech can be healthy, somebody working on a text may be a doctor.³⁵ And in fact we find the first attestation of this idea long before the emergence of technical grammar. When Socrates ventures an interpretation of a poem by Simonides in Plato's *Protagoras* and is criticized by Protagoras for having inadvertently introduced an even greater problem, he compares critics to doctors:

ὁ δὲ Πρωταγόρας, τὸ ἐπανόρθωμά σοι, ἔφη, ὦ Σώκρατες, μείζον ἀμάρτημα ἔχει ἢ ὃ ἐπανορθοῖς. καὶ ἐγὼ εἶπον· Κακὸν ἄρα μοι εἴργασται, ὡς ἔοικεν, ὦ Πρωταγόρα, καὶ εἰμί τις γελοῖος ἰατρός· ἰώμενος μείζον τὸ νόσημα ποιῶ. Protagoras said: 'Your corrected version, Socrates, has a worse error than what you are attempting to correct.' And I answered: 'Then I have apparently done bad work, Protagoras, and I am a ridiculous doctor: my attempt at healing makes the illness worse.' Pl. *Prt.* 340d6 ff.

The final connection between technical grammar and medicine that I want to discuss in this connection brings us back to the notion of *diorthōsis*. The grammarian operates as the guardian of correctness and textual health, and performs the therapeutic practice of *diorthōsis*, correction, the normal technical term for the correction of a manuscript, a text, but also the normal medical term for the orthopedic activity of setting a broken or otherwise malfunctioning limb.³⁶ It was this term that we encountered in the comparison between grammar and medicine in the classification of the arts discussed above.

It is intriguing that the most intricate and detailed comparison between the orthopedic activities of a doctor and the diorthotic activities of a grammarian dates from the first century BC again, and may have originated in the same intellectual circles in which Trypho and Philoxenus played with similarly medically oriented notions of pathology. In books 8-10 of his *On the Latin Language*, Varro constructs the famous controversy between analogy and anomaly as a

³⁵ Sextus Empiricus defends the use of a watered-down version of grammar, 'grammaticistic', as follows (*M.* I 52): ἡ γραμματιστικὴ διὰ τῆς τῶν γραμμάτων ἐπινοίας *ἰᾶται* μὲν ἀργότατον πάθος, τὴν λήθην, συνέχει δὲ ἀναγκαιοτάτην ἐνέργειαν, τὴν μνήμην. 'By the device of letters 'grammaticistic' *cures* a most indolent affection, forgetfulness, and it offers the possibility of most necessary activity, namely memory'. For an analysis, cf. Sluiter (2000a) 103 f. For writing as a cure for forgetfulness, see Sluiter (2000a) 118 note 47 (*grammata* as *lēthēs pharmaka*, E. *Palam. fr.* 578 N.; Theuth in Pl. *Phdr.* 274e (*grammata* = *mnēmēs te kai sophias pharmakon*)).

³⁶ Galen works on the basic principle that nothing that is in accordance with nature will need correction: *In Hipp. Artic. comment.* 7 (18a.320 K.) οὐδεν ... τῶν κατὰ φύσιν ἐπανορθώσεως δεῖται.

disputatio in utramque partem.³⁷ The question is whether analogy, rationality, regularity should rule in judging whether a linguistic utterance is correct, or whether *consuetudo*, empirically established usage, determines what can and cannot be said (so that in fact some regular, but unusual forms would be ‘wrong’). In the part where the case for analogy is made it is argued that *consuetudo* should only be followed when there is some rational explanation for it (which in fact assimilates it to *ratio*). The coincidence of the two criteria would be best. The spokesman for analogy then discusses the relationship between ‘usage’ (*consuetudo*), and mistakes.

Cum duo peccati genera sint in declinatione, unum quod in consuetudinem perperam receptum est, alterum quod nondum est et perperam dicatur, unum dant non oportere dici, quod <non> sit in consuetudine, alterum non conceditur quin ita dicatur, ut si<t> similiter, cum id faciant, ac si quis puerorum per delicias pedes male ponere atque imitari vatias c<o>eperit, hos corrigi oportere si conceda<n>t, contra si quis in consuetudine ambulandi iam factus sit vatia aut conpernis, si eum corrigi non conceda<n>t.

Non sequitur, ut stulte faciant qui pueris in geniculis alligent serperastra, ut eorum depravata corrigant crura? Cum vituperandus non sit medicus qui e longinqua mala consuetudine aegrum in meliorem traducit, quare reprehendendus sit qui orationem minus valentem propter malam consuetudinem traducat in meliorem?

Now there are two kinds of mistake in inflection; one, that which has been erroneously accepted into general usage; the other, that which is not yet so accepted and is said wrongly. The latter they [the defenders of *consuetudo*] grant ought not to be said, because it is not in usage, but as for the former they do not admit that it should not be said in this way; so that when they do this it is just as if they should grant that boys ought to be corrected in case any of them in order to show off begins to manage his feet awkwardly and to imitate the bowlegged, but should refuse to grant that one should be corrected if he in his habit of walking has already become bowlegged or knock-kneed.

Does it not follow that they act foolishly who fasten splints on the knees of children, to straighten their crooked leg-bones?³⁸ Since the physician is not to be censured who makes a healthier man out of one who has been ill as a result of a long-continued bad habit, why should he be blamed who brings into better condition a way of speech which has been less effective on account of bad usage? Var. *L.* 9.10-11 (tr. Kent, adapted).

³⁷ On Varro's role in the construction of this debate, cf. Fehling (1956 and 1957), Taylor (1986).

³⁸ This remark is ironical.

The last part of this text provides the analogist's motivation for changing even customary speech. The starting point in this text once again is language: correction can affect a new mistake – someone makes a slip of the tongue and is corrected instantly: in such a case correction is appropriate. But correction can also be an attempt to make language 'better', i.e. 'more regular' on the whole, while ignoring the fact of actual, long-ingrained usage. The imaginary opponent would only accept the former, but not the latter, although nobody would blame a doctor for trying to make his patients as good and healthy as possible, even if this means remedying a bad habit of many years. The example is a particularly detailed comparison of grammatical and medical *diorthōsis* – but the starting-point is grammar: the grammarian is confronted with an *oratio minus valens* ('not quite healthy speech') and has the obligation to fix it. As guardian of language he protects the health of his object. Medicine is adduced as comparison in order to derive an argument from it.

In the previous section we have seen that in the linguistic tradition, the disciplines of grammar and medicine are perceived as closely related. In this section, we set out the evidence for the fact that by the time of Galen there is a long-standing tradition of discussing language in organic terms, as a biological phenomenon. There is also a long tradition of applying medical discourse to speech. Mostly, this tradition is found in texts belonging to the field of language study, i.e. the grammatical tradition. Now it is time to turn to Galen again, to see whether this tradition is also operative in the work of this doctor-philologist.

Galen on texts

Let us take the notion of *diorthōsis* or *epanorthōsis* as a starting-point. They are the terms used in Hippocrates for all work on bones and joints, straightening and setting bones, readjusting disjointed members, or, more generally, for fixing a *kakon*, even the slight harm (βλάβη) that medical practice itself may inflict.³⁹ But what about Galen? Does

³⁹ Hipp. *Epist.* 17.19-20 (9.350 L.): ὥς τάχα μὲν οὐδενὸς ἐόντος κακοῦ ... εἰ δ' ἄρα καὶ τινος βραχέος, εὐδιορθώτου; The orthopedic use is the normal one in the medical tradition. In *Anthologia Palatina* 11.120 a doctor makes an attempt at ὀρθῶσαι with fatal outcome: the patient is straighter than a rod, but quite dead.

he apply the term in a way that suggests that Hippocratic texts may be counted under his patients? By far the most frequent use of *diorthōsis* and *epanorthōsis* in Galen is again for the setting of bones,⁴⁰ and sometimes for remedying other medical problems.⁴¹ But he does indeed also use it for the correction of texts.⁴² The next question to ask, therefore, is: does that make him see the text as a body?

Of all ancient authors, Galen may have had the best sense of the material conditions of texts, and the ways in which they can be corrupted.⁴³ He often remarks on physical features of the text, e.g. fibres of papyrus being damaged, or insects eating bits of words.⁴⁴ Texts and books can also be willfully damaged.⁴⁵ And, seemingly the most significant, but also isolated usage in the light of the above: words can 'be affected' (πεπόνθασι).⁴⁶ However, none of this means that Galen conceives of a text as a living being or a body or that he uses that discourse.

⁴⁰ E.g. Galen, *In Hipp. Artic. comment.* 4.7 (18a.674 K.) κατόρθωσις (Hipp.) = ἐπανόρθωσις (Galen).

⁴¹ Galen, *In Hipp. Epid. VI comment.* 4.8 (17b.142 f. K.) when a doctor permits something that he knows is not beneficial to the patient, but that will make him more comfortable or happier for now, that is all right: βραχεῖαν γὰρ βλάβην ἐπανορθώσασθαι δυνατόν ἐστι τὴν μετὰ ταῦτα τοῦ κάμνοντος εὐπεΐθειαν ... ὡς ἐπανορθωθῆναι τὴν γεγонуῖαν ἤδη βλάβην. Cf. also Galen, *In Hipp. Acut. comment.* 4.91 (15.888 K.) olive oil as a remedy for dryness: τῶν δριμέων δὲ πραῦντικόν τὸ ἔλαιον καὶ τῆς ξηρότητος ἐπανορθωτικόν.

⁴² Correction of texts in Galen, e.g. *De libr. propr. prooem.* (19.10 K.): students ask Galen to ἐπανορθώσασθαι his own texts; *ibidem* prooem. (19.11 K.) .) ἐπανορθώσεως ἔνεκεν; *ibidem*, 1 (19.12 K.) .) διορθώσεως ἔνεκεν; *In Hipp. Epid. VI comment.* 3.40 (17b.111 K.) ἐπανορθώσασθαι τὴν γραφὴν; further e.g. *In Hipp. Epid. VI comment.* 1 praef. (17a.794 K.); *In Hipp. Acut. comment.* 2.23 (15.557-558 K.) δυοῖν οὖν θάτερον, ἢ ἐπανορθωτέον ἐστὶν ὡς ἡμαρτημένην τὴν τοιαύτην γραφὴν καὶ οὕτω γραπτέον ... ἢ εἴπερ φυλάττοιμεν ... οὕτως ἀκουστέον τῆς λέξεως.

⁴³ See Rutherford (1905) 55 ff. and e.g. Galen, *In Hipp. Off. Med. comment.* 1 praef. (18b.630 f. K.) about the search for ancient copies (on different writing materials). Bröcker (1885) for Galen and textual criticism. See also Manetti & Roselli (1994).

⁴⁴ Galen, *In Hipp. Epid. VI comment.* 1 praef. (17a.795 K.)

⁴⁵ Galen, *In Hipp. Nat. Hom. comment.* 1.1 (15.24 K.) mentions e.g.: information lost through a lack of successors of the author, no publication of the author's works during his lifetime, there being only one or two copies extant after the death of the author, which then disappeared; neglect and subsequent destruction through time; willful hiding or making disappear of books through jealousy, or the attempt to steal the contents; disappearance of unpopular ideas; fires; earth-quakes.

⁴⁶ Galen, *In Hipp. Epid. I comment.* 2.83 (17a.196 K.): ἐγχωρεῖ δὲ κατ' ἀρχὴν εὐθὺς ὑπὸ τοῦ βιβλιογράφου τὴν λέξιν ἀμαρτηθεῖσαν φυλαχθῆναι, καθάπερ **καὶ ἄλλαι πολλὰι τοῦτο πεπόνθασι.**

An illuminating example of the type of discourse that Galen does use comes from his commentary on Hippocrates' *Epidemics*, where his critical attention is drawn by the fact that Hippocrates seems to be saying the same thing twice – not a good thing, unless you can explain it. – And here we have to remember that Galen is committed to the view that Hippocrates is the best prose author of the Greeks, and so is not subject to these kinds of random mistakes.⁴⁷ Galen explains the repetition in this text in two ways: it is either a rhetorical *epanalēpsis*, used on purpose by the author to remind the audience of an important point.⁴⁸ Or something is wrong with the text – a phenomenon that in fact occurs more often and that has to do with the process of composition (ἐτέρα δ' (sc. excuse for this phenomenon) ἦν ἴσμεν πολλάκις γιγνομένην ἐπὶ πολλῶν συγγραμμάτων). The process leading to the corrupted text is then described as follows:

ἐνίστε γάρ, ὑπὲρ ἐνὸς πράγματος διττῶς ἡμῶν γραψάντων, εἴτα τῆς μὲν ἐτέρας γραφῆς κατὰ τὸ ὕφος οὔσης, τῆς δ' ἐτέρας ἐπὶ θάτερα τῶν μετώπων, ὅπως κρίνωμεν αὐτῶν τὴν ἐτέραν ἐπὶ σχολῆς δοκιμάσαντες, ὁ πρῶτος μεταγράφων τὸ βιβλίον ἀμφοτέρα ἔγραψεν, εἴτα μὴ προσσχόντων ἡμῶν τοῖς γεγονόσι μὴδ' ἐπανορθωσαμένων τὸ σφάλμα, διαδοθὲν εἰς πολλοὺς τὸ βιβλίον ἀνεπανόρθωτον ἔμεινεν.

For sometimes we would have written two versions of a discussion of the same matter. One version would be in the body of the text, the other in either of the margins, so that we might ultimately pick one out taking our time to judge them. But then, the first copyist of the book included both, and if we did not notice what had happened and did not correct (*epanorthōsamenōn*) the mistake, the book would get transmitted into many hands and remain uncorrected (*anepanorthōton*). Galen, *In Hipp. Epid. I comment.* 1.36 (17a.80 K.) = *CMG* V.10.1 Wenkebach.⁴⁹

This is a wonderful text for a number of reasons. Galen compares his own authorial practice with that of Hippocrates, like he always does: he identifies with his hero completely. It has happened to Galen himself, too, that a doublet was accidentally inserted into the text by a copyist. The role here ascribed to the copyist can be found many times in Galen. If there is a mistake in the text that is clearly very old, he will prefer to blame a copyist, or even more specifically the very first one, rather than admitting that Hippocrates was wrong. This is the so-called σφάλμα

⁴⁷ Cf. Sluiter (1995a) 522, and Galen, *In Hipp. Fract. comment.* 1.1 (18b.325 K.).

⁴⁸ The terms ἐπαναλαβεῖν and ἐπαναλήψεως are used right before our passage.

⁴⁹ On this text, cf. Manetti (2006).

τοῦ βιβλιογράφου, ‘copyist’s error’.⁵⁰ The text is corrupted as a result; the diagnosis is that there is a σφάλμα, and it should be corrected – note ἐπανορθωσαμένων and ἀνεπανόρθωτον, belonging to the semantic field of (*di*)-*orthōō*, which we were using as a heuristic device, as a possible link between grammar and medicine. Let us be explicit again: there is no suggestion here that the text is conceived of as a living being,⁵¹ in spite of the somewhat misleading translation ‘the body of the text’ used just now. Instead, two *different* metaphors are activated: one is that of the physical text-block as ‘texture’, in fact, ὕφος is the precise Greek equivalent of Latin *textus*, the woven structure of the ‘text’. The first metaphor derives from weaving then. However, at the same time, the spaces on either side of the text and hence also between text-blocks, the margins, are called μέτωπα, and this is surely an architectural metaphor.⁵² Μέτωπον is any vertical surface, front or façade, or a block of stone.⁵³

⁵⁰ See Rutherford (1905) 55 ff. Cf. e.g. Galen, *In Hipp. Epid. I comment.* 2.83 (17a.196 K.); *ibidem*, *In Hipp. Aph. comment.* 52 (17b.732 K.) discussing the use of the form ἀτοπώτερον: ἄμεινον γὰρ ἦν ἀπολελυμένως ἄτοπον εἰρῆσθαι, καί μοι δοκεῖ τὸ σφάλμα τοῦ πρώτου βιβλιογράφου γεγονέναι μᾶλλον ἢ Ἱπποκράτους αὐτοῦ; *ibidem*, *In Hipp. Epid. VI comment.* 3.40 (17b.110 K.) τάχα καὶ σφαλέντος τοῦ πρώτου γράψαντος βιβλιογράφου. *Ibidem*, *In Hipp. Prorrh. comment.* 2.92 (16.688 K.) ἀπόφασιν τὴν μὴ παραλελειμμένην ὑπὸ τοῦ πρώτου τὸ βιβλίον μεταγραψαμένου.

⁵¹ In spite of the fact that one may find a somewhat similar combination of σφάλμα and κατορθόω in an orthopedic context, i.e. when discussing a patient, e.g. Galen, *In Hipp. Fract. comment.* 2.68 (18b.516 K.)

⁵² Interestingly, the term μέτωπον originally does derive from a part of the body, namely the forehead, the ‘space between the eyes’, again particularly appropriate when you think of an animal with eyes on either side of its head (see above at note 23; Svenbro [1988]) – but that metaphor does not seem alive any longer in this context. Chantraine, s.v. μέτωπον refers to Arist. *HA* 491b ‘espace entre les deux yeux, front’ (of humans and animals); ‘façade d’une construction de remparts’. The term derives from μετά + -ωψ (Chantraine refers to Frisk for the particular appropriateness of the expression for the construction of animal heads.) Müller (1974) 304 f. is not useful in this connection.

⁵³ Note that we are not dealing with words for ‘metope’, ‘the part between two beam-ends’ (or the openings in which the beam-ends rest), ὀπαί, which would be ἡ μετόπη, from which μετόπιον with omicron, attested from 297 BC, when an inscription (*ID* 500, A 17) talks about putting together metopes and triglyphs. This passage was brought to my attention by Folkert van Straten, who also helped with the interpretation of the term ‘metope’. As to μέτωπον or μετώπιον, it is also attested in the Byzantine *Basilika* (a legal source) and the so-called *Epimerismoi* attributed to the second-century-AD grammarian Herodian. *Basilika* 60.51.47.2 has ἐκ τῶν ἐν τοῖς μετωπίοις σχολίων, scholia written in the spaces between the columns of text, the margins. The *Epimerismoi* are an alphabetical collection of annotations on Homeric words, which the

If one looks around in Galen for similar texts, the architectural metaphor may be reinforced. For while the text-block itself may be designated by *huphos*, the space for writing is also called *edaphos* or *edaphion* ('bottom, foundation, base, ground-floor') in similar contexts, e.g. in the following text.⁵⁴

εὐρόντα τὸν βιβλιογράφον ἐνίας μὲν αὐτῶν (sc. τῶν λέξεων) ἐν τοῖς μετώποις γεγραμμένας, ἐνίας καὶ κατὰ τοῦ νώτου,⁵⁵ πάσας ἔγραψ' ἐν τῷ ἑδάφει τοῦ συγγράμματος ἐν ᾗ κάλλιστα τάξει δόξουσιν εὐλόγως ἐγκεῖσθαι.

The copyist finds some words written in the margins, and some even on the back, and he writes them all in the text-block space (*edaphos*) of the treatise, in the order in which they would make the best impression of logical order. Galen, *In Hipp. Off. Med. comment.* 3.22 (18b.864 K.).

In fact, we seem to be dealing with a not altogether well-sorted-out amalgamation of metaphors here: μέτωπον as a vertical slab (of stone) or surface goes with ἑδάφος and ἑδάφιον to represent the architectural

author has tried to make more accessible by adding the letter-combination that he is at in the margin. So you can e.g. look up the letter zeta in the margin, and then look for the word you need. *Epimerismoι* 2.9 f. (Boissonade) ὅρα καὶ ἐν τοῖς μετωπίοις τῶν καταβατῶν ('of the pages') ἐπισημαινομένους τοὺς ἐπιμερισμοὺς, ὡς ἂν ἔχῃς εὐρίσκειν ῥαδίως τὸ ζητούμενόν σοι; 159 (Boissonade) Σὺ γοῦν, εἰ ζητεῖς περὶ τίνος ἀντιστοίχου, βλέπε ἔξωθεν· ἐν τοῖς μετωπίοις τῶνδε τῶν καταβατῶν τὰ σημεῖα τῶν ἐντὸς ἐπιμερισμῶν κατὰ στοιχείον κείμενα, καὶ οὕτως συντόμως ἂν ἔχῃς εὐρίσκειν τὸ ζητούμενόν σοι ... Ἐπισημαίνομεθα δὲ καὶ ταῦτα (sc. a rest-category) ἔξωθεν ἐν τοῖς μετωπίοις. Note the use of ἔξωθεν/ἐντός for 'outside' or 'inside' the text-block. See also Marin. *Procl.* 27 (p. 22 Boissonade), where the issue also is marginal scholia. For *metōpon* 'block of stone', see *IG VII* 4255 (Amphiareion Oropos 338-322a). I thank Folkert van Straten for drawing my attention to this inscription.

⁵⁴ Galen, *In Hipp. Hum. comment.* 1.24 (16.202 K.) φαίνεται τοίνυν προσγραφὲν ὑπὸ τίνος, αὐθις δὲ εἰς τοῦδαφος ὑπὸ τοῦ βιβλιογράφου μετατεθεῖσθαι; at *In Hipp. Prorrh. comment.* 3.168 (16.837 K.) Galen has removed a word which had been written by Capito ἐπ' αὐτῷ τῷ ἑδάφει, and by Dioscorides κατὰ τὸ μέτωπον; *ibidem*, *In Hipp. Epid. III comment.* 2.7 (17a.634 K.) = *CMG V.10.2.1* Wenkebach again concerns a doublet that cannot be attributed to the activity of Hippocrates himself but παρεγγέγραπται: τάχα δέ τις ἴσως καὶ <τάδε> προσέγραφεν ἕνεκεν ἑαυτοῦ, καθάπερ εἰώθαμεν εἰς ὑπόμνησιν ἐν τοῖς μετώποις τὰ τοιαῦτα προσγράφειν. εἰτά τις τῶν μεταγραφόντων τὸ βιβλίον ὡς αὐτοῦ τοῦ συγγραφέως ὄν εἰς τὸ ὕφος (O: τοῦφαδος L, defended by Manetti [2006]) αὐτὸ μετέθηκεν; *ibidem* 3.22 (18b.863 K.). See further Rutherford (1905) 55, and 22 note 23 for the use of *prosgraphein* and *parengraphein*.

⁵⁵ τοῦ νώτου (νώτον or νῶτος for 'verso') is the completely convincing emendation of Manetti (2006) for the manuscript reading κατὰ τοῦ μετώπου. She adduces the parallel from Galen, *In Hipp. Acut. comment.* 2.55 (216,24-217.3 Helmreich; 15.624 K.).

camp, even though it is not easy to envisage the exact way in which the terminology corresponds to the physical book, presumably still a book-roll. The terminology may also derive originally from the construction of a writing-tablet, which would have an *edaphos* more clearly. If one puts a roll on the table, partially unrolled in order to read the text, *edaphos* stands for the flat surface with the main column(s) of writing. *Metōpa* or *metōpia* are the blank surfaces, the margins, between the columns of writing. There is also the metaphor from weaving, represented by ὕφος, the actual text-block itself (*edaphos* may have originally primarily designated the space for the text-block, rather than the text itself, although the distinction is often lost). And there is possibly a third one: if Manetti's conjecture is right, do we also see the re-introduction of body metaphors? Since νῶτος is 'the back', this might make us realize once again that μέτωπον also potentially has a body reference. However, writing on 'back' and 'front' is not enough to give us the picture of a text as a living being, nor do any of these texts pick up on that metaphor in other senses. So it is probably preferable to take νῶτος, like μέτωπον, as a spatial metaphor, one of the non-literal ways the word can be used,⁵⁶ to give us a fairly consistent picture of architecture as the model for the text, with the addition of the metaphor from weaving.

These findings should give us pause: our starting-point was the classification of the sciences in the grammatical tradition, where the diorthotic, or 'correctional' part, was a point of comparison between grammar and medicine. Biological and medical discourse is ubiquitous in texts talking about language. And yet, although the circumstances seemed to favorable, Galen, who is completely familiar with the tradition and discourse of language study, does *not* talk about texts he is correcting as living beings, to be compared with patients with an orthopedic problem. Instead, he uses metaphors derived from weaving and architecture. In order to get a better grasp of this situation, it will prove useful to take a look at Galen's own classification of the arts, since he seems to disagree with the classification provided by the linguists.

⁵⁶ Cf. *LSJ* s.v.; it can denote wide surfaces, but always with the notion that the main part is 'on the other side', as when it is used of the sea. See also E. *Hel.* 842 τύμβρου 'πὶ νῶτοις 'on the grave' (i.e. the outside).

Galen's classification of sciences

Galen gives such classifications in several of his works.⁵⁷ I will not discuss all of them, but take the one from *On the Composition of the Art of Medicine* as my starting-point.⁵⁸

Ἔστιν οὖν ἡ ἰατρικὴ μία τῶν ποιητικῶν, οὐ μὴν ἀπλῶς οὕτως, ὥς ἡ οἰκοδομικὴ τε καὶ τεκτονικὴ καὶ ὑφαντικὴ, ἀλλ' ὥς ἡ τε τῆς πεπονθυίας οἰκίας ἐπανορθωτικὴ καὶ τῶν ῥαγέντων ἱματίων ἀκεστικὴ.

Medicine, then, is one of the creative (poietic) arts, but not simply so, like architecture and building and weaving, but like the art that fixes a house that has something wrong with it, and mends (or: 'heals'!)⁵⁹ torn garments. Galen, *De const. art. med.* 20 (1.303 K.).

In this text, Galen classifies medicine with architecture and weaving and emphasizes that it is similar to a certain branch of these skills, namely the one that fixes and corrects (*epanorthōtikē*, our term again) problems. It is not like building a house, but like repairing a defective (*peponthuias*, note the relationship with *pathos*) one; it is not like weaving a piece of clothing, but like mending a torn one. This relationship between medicine, architecture and weaving as repair skills has many parallels in this work, and some outside of it, in which we find all the relevant terms and connections: *epanorthōsis*, *pathos*,

⁵⁷ On Galen's division of *technai*, see von Staden (2002) 27, who also provides a list of all relevant passages in Galen. See also Tatarkiewicz (1963) 233 f. Vegetti 1981 discusses the two types of medicine ('dal profilo alto'/'dal profilo basso') which correspond to two different classifications, the one from the *Exhortation to the Arts* the other from *On the Composition of the Art of Medicine*. The high profile is related to the philosophical tradition ('the ideal body') (Vegetti 1981, 47), the low profile with Hippocratic clinical practice ('the sick body'), and hence the need for 'repair work', Vegetti (1981) 58. Hippocratic medicine of course opposed itself to the vulgar *pharmakopōlai* (cf. Galen, *De diebus decr.* 11 (9.823 K.); cf. Sch. DTh. 110.9 ff.).

⁵⁸ In only one case does Galen classify medicine in the same general group as grammar and rhetoric, and that is in his division of the arts and sciences at the end of his *Exhortation to the Arts* (14), see Vegetti (1981) 47. Two main groups are made here, ἔναι μὲν γὰρ αὐτῶν λογικάι τ' εἰσὶ καὶ σεμναί, τινὲς δ' εὐκαταφρόνητοι καὶ διὰ τῶν τοῦ σώματος πόνων, ἃς δὴ βαναύσοις τε καὶ χειρωνακτικὰς ὀνομάζουσιν: only the first group will last its student into old age. To the first group belong *iatrikē*, rhetoric, music, geometry, arithmetic, *logistikē*, astronomy, grammar, *nomikē*. Possibly *plastikē* and *graphikē* (you use your hands, but do not need youthful strength). This passage is referred to in Horstmanshoff (1987); see Tatarkiewicz (1963) 234.

⁵⁹ ἀκεστικὴ / ἀκέομαι 'to heal, to mend'.

sphalma.⁶⁰ Since the weaving and building metaphors were also used in discussing texts, medicine and grammar are implicitly linked again, even though the middle terms weaving and building have the direct effect of separating medicine and grammar by preventing a one-on-one mapping.

Now, as one may imagine, in the rest of his work Galen does not have much occasion to discuss either house maintenance or mending clothes. If something needs fixing, it is always something organic, i.e. a body, OR a text. And yet, although ‘correction’ is here connected with other arts, there is no mention of grammar, where *diorthōsis* is such an obvious technical term. To the contrary, notions and metaphors deriving from weaving and building seem to have been projected onto the physical construction of a text – hence the use of *huphos*, only attested in Galen in this sense, and of *edaphos*, and *metōpon*, which we discussed in the last section.⁶¹

⁶⁰ Galen, *De const. art. med.* 1 (1.230 K.): ἔναι μὲν γὰρ τῶν τεχνῶν αὐτὰ τὰ πράγματα δημιουργοῦσιν, ὥσπερ αἱ κατὰ τὴν ὑφαντικὴν καὶ σκυτοτομίαν· ἔναι δὲ **ἐπανορθοῦνται** τὰ πονήσαντα, καθάπερ αἱ τε τὰ διεργωγῶτα τῶν ἱματίων, καὶ τὰ διεσπασμένα τῶν ὑποδημάτων συρράπτουσαι. The text continues with an extended parallel between building houses and medicine, in which ἐπανόρθωσις... τῆς πεπονθυίας plays an important role; *ibidem* 10 (1.257 f. K.) προῦκειται μὲν ἡμῖν συστήσασθαι τέχνην ὑγείας ποιητικὴν, ἀλλ’ οὐχ οὕτως, ὥς ἡ οἰκοδομικὴ τῆς οἰκίας δημιουργικὴ ἐστίν, ἀλλ’ ὥς **τοῦ διαφθειρομένου μέρους αὐτῆς ἐπανορθωτικὴ**. (258) .) καὶ οὐδ’ ἐνταῦθα πάντῃ τὸν αὐτὸν τρόπον, ἀλλ’ αὐτὸ δὴ τοῦτο τὸ ζητούμενον ἦν ἐξευρεῖν, ἄχρι πόσου παραπλησίως οἰκοδόμῳ **τὰ σφάλματα τοῦ σώματος ἐπανορθοῦσθαι** δυνατός ἐστιν ὁ τὴν ὑγιαστικὴν τέχνην μεταχειριζόμενος; *ibidem* 20 (1.303 K.) medicine is described as **τὸ διαφθειρόμενον ἐπανορθοῦν**, the doctor is **ἐπανορθωτικός** τε καὶ ὑπηρετικός. See also *Thrasylbulus* 4 (5.812 K.), where Galen rejects an alternative division, separating e.g. house-building (which creates and repairs), from tailoring and clothes-mending (two *technai*, one for creating, one for repair), which would lead to the separation of healing and preventive medicine; see further *ibidem* 16 (5.854 K.), where medicine is again compared to τῇ τὰ πεπονηκότα τῶν ἱματίων ἐπανορθοῦμένη προσοικισίαν. Note also the interesting use of *ponos* applied to clothes or shoes, here and at *De const. art. med.* 1 (1.230 K.), quoted above.

⁶¹ Note that Galen does not make further use of two alternative traditions: the first links architecture and the body, see e.g. Vitruvius 3.1 on the human body as criterion for proportions and McEwen (2003) 155 ff., particularly 157. The other (on which see de Jonge (2008) 188 note 63, from whom I borrow the following examples) stems from the linguistic/rhetorical tradition and talks about constructing texts in terms of creating a well-proportioned building (cf. terms such as κανὼν, ἔδρα, ὕλη). See e.g. Democritus *fr.* DK B 21. (where the verb τεκταίνομαι is used of Homer); Ar. *Pax* 749: ἐπόησε τέχνην μεγάλην ἡμῖν κάπύργωσ’ οἰκοδομήσας (cf. Müller [1974] 80); Phld. *Po.* 1 fr. 55 Janko (relationship between σύνθεσις and οἰκοδομεῖν); D.H. *Comp.* 2 p. 8,3-16; 6 p. 28,5-13; 22-24; Cic. *De Orat.* 3.171 *componere et struere verba*; Demetr. *Eloc.* 13; Quint. 7 *pr.*

Is it just a matter then of Galen having such a sense of the importance of medicine that he refuses to extend its terminology to less worthy objects? That clearly cannot be the explanation. In fact, Vegetti argues that the classification we are dealing with here risks all kinds of undignified consequences, such as putting all students of medicine, in her guise as repair technique, in the same company as Thessalus, the much-maligned doctor from *On the Therapeutic Method*, who is fitting company for tailors and construction workers.⁶² Moreover, it is not the case at all that Galen is nervous in general about applying medical terminology to the not necessarily very dignified objects of the arts of weaving and building. He will use *ponos* terminology to describe the bad condition of clothes (see n. 60). And he claims that everything that is will have a certain natural bodily condition (*kataskeuē sōmatos*), and these natural conditions may either be excellent (*aristē*), bad (*phaulē*), or constitutionally sick (*nosousan*): such notions of ‘sickness’ and ‘body’ are applied among other things to a house, a ship, a coat, and a shoe – but not to a text.⁶³ The doctor and the builder are both involved in τὰ σφάλματα τοῦ σώματος ἐπανορθοῦσθαι.⁶⁴ More abstract objects are also sometimes approached in terms of the medical science: Heinrich von Staden has shown that Galen is perfectly willing to ‘use dissection as a methodological model for the division of the medical *technē* into its various branches’.⁶⁵ In fact, I would claim that this again makes the absence of dealing with texts and grammatical or philological issues in terms of medicine rather noteworthy, since both traditional and contemporary discourse linked medicine and grammar, and Galen is of all the doctors we know probably the most philological one. So why the pointed omission?

1; 9.4.27. Cf. also Müller (1974) 313 ff. for discourse about language and poetry deriving from the *artes*.

⁶² Vegetti (1981) 60.

⁶³ Galen, *De const. art. med.* 10 (1.257 K.); Galen does not normally use ὑγίης and cognates to describe the state of a text or a linguistic item. Exception: to modify ‘λόγος’, an argument: *Adv. Lyc.* (3.215 K.); *In Hipp. Aph. comment.* 36 (18a.57 K.); *In Hipp. Off. Med. comment.* 3.23 (18b.905 K.). (He also uses idiomatic phrases like οὐδὲν ὑγιὲς λέγοντες, e.g. *In Hipp. Nat. Hom. comment.* 2.22 (15.172 K.). See further *In Hipp. Acut. comment.* 4.12 (15.751 K.) (with comments on the relationship between *hugiēs*, *epieikēs*, *alēthēs*).

⁶⁴ Galen, *De const. art. med.* 10 (1.258 K.)

⁶⁵ Von Staden (2002) 20 f. and on anatomy as a methodological model (2002) 28–40.

*Galen on the relationship between grammar and medicine**The refusal to dignify grammar*

I believe that there is a clear answer and I have alluded to it before: Although at every turn, particularly in dealing with the *Hippocratic Corpus*, Galen behaves like a trained philologist, in fact a grammarian, he utterly rejects that identification. He is a doctor, maybe a philosopher, but certainly no grammarian. Grammarians are nit-picky about the wrong things, they spend too much time on unimportant issues, and they are associated with the most basic training rather than with advanced thinking. Of course, in the second century, their social standing is also low, and derogatory remarks about them and their profession abound. Galen is very much a child of his time, the Second Sophistic, in his constant attempts to mark off his own domain from that of the grammarian.⁶⁶ It is precisely because Galen engages so frequently in a grammarian's practices that he has a vested interest in keeping the boundaries as clear as possible. He refuses to dignify the grammarians' business by extending medical metaphors to them or by explicitly relating grammar and medicine.⁶⁷ I think that must be behind this pointed omission.

But this means that there is such a glaring discrepancy between Galen's practice and his rhetoric, that one wonders whether it should not be possible to catch him out. Is there really no sign of his awareness of a connection between the diorthotic practices directed at texts and at people? I think there is, but it will require a small detour into the moral aspects of the medical profession.

The moral equivalence between doctor and grammarian: courage

In the self-representation of the doctor, courage plays an important role,⁶⁸ and understandably so: in treating a human patient, the doctor takes a risk when he engages in surgical procedures, blood-letting,⁶⁹ the

⁶⁶ Sluiter (2000b) 196 f.

⁶⁷ Galen does know the metaphor of 'cutting up at the natural joints', derived from Pl. *Phdr.* 265e1-3: see Galen, *De meth. med.* 2.6 (10.123 K.), cf. von Staden (1995) 513 'by making linguistic divisions at the right, natural (joints or [I.S.]) junctions, the scientist can produce divisions and definitions that *naturally* reflect reality'.

⁶⁸ Cf. Rosen & Horstmanshoff (2003).

⁶⁹ 'Neither you nor anyone else ever dared (ἐτόλμήσατε) do this to a very old or very young patient', Galen, *De sectis* 7 (1.89 K.) Other negative instances where this 'daring' would have led to negative effects, e.g. Galen, *De elem. sec. Hipp.* 3 (1.500 K.) εἰ δ' αἵματος ἀφελεῖν αὐτῶν ἐτόλμησέ τις, εὐθὺς ἂν ἀπέκτεινεν.

prescription of drugs,⁷⁰ or even in permitting the use of cold water⁷¹ or baths. Similarly, *tolma* (τόλμα), is involved in making public demonstrations of anatomical dissection.⁷² A mistake may mean a dead patient. Taking a rash risk may be expressed by the verb *τολμάω*, which is also used to indicate the courage of the sensible and careful doctor. Sometimes it is stated explicitly that Galen did not dare embark on too risky a therapy and abstained from it.⁷³ He makes it clear that the kind of courage one needs is informed by discretion and knowledge. Courage is also required to speak freely to powerful patients like the Emperor.⁷⁴ Just one illustration must suffice, the famous story of a *pais* who was hurt in the *palaistra*. He was operated on several times, but the doctor could not get the wound to form scar-tissue. Then mortification of the bone set in. The bone clearly needs to be removed, but nobody is willing to undertake it. Then Galen comes forward:

ἐγὼ δ' ἐκκόψειν μὲν ἔφην αὐτὸ ... 'I declared I would cut it out', but he refrains from giving a positive prognosis. It appears that only the bone in question is affected at which G. remarks: διὸ καὶ μᾶλλον ἐθάρρησα πρὸς τὴν χειρουργίαν ἐλθεῖν that is why I entered upon the surgery with more confidence'. In the end the boy is cured completely: ὅπερ οὐκ ἂν ἐγένετο, μηδενὸς *τολμήσαντος* ἐκκόψαι τὸ *πεπονθός* ὁστοῦν· *ἐτόλμησε* δ' ἂν οὐδεὶς ἄνευ τοῦ προγεγυμνάσθαι κατὰ τὰς ἀνατομικὰς ἐγχειρήσεις, 'this would not have happened if nobody *had dared* to excise the *affected* bone. And nobody *would have dared* that without having had preliminary training in surgical manipulations.' Galen, *De anat. admin.* 7.13 (2.633 K.).

The message is clear. Being a doctor requires skill, but it also takes a certain kind of man. Without courage, no patient will be cured.

When we think about the relations between the *technai* again, it would be difficult to imagine that repairing a house, or sewing up tears

⁷⁰ E.g. Galen, *De loc. aff.* 1.4 (8.41 K.) ἔτι δὲ καὶ μᾶλλον εἰς ἐλπίδα τῆς ἀληθοῦς διαγνώσεως ἀφικόμενος ἐτόλμησα δοῦναι τοῦ πικροῦ φαρμακοῦ. The doctor here has a reasonable expectation of success (he gives the arguments just before this quotation) and on that basis he summons up the courage to give the drug.

⁷¹ E.g. Galen, *De meth. med.* 10.6 (10.693 K.); 10.10 (10.722 K.) it is pointed out that under certain circumstances nobody would be as rash as to do this (οὐδεὶς τολμᾷ).

⁷² Or rashness as in the case of the incompetent doctor in Galen, *De anat. admin.* 7.16 (2.642 K.).

⁷³ E.g. Galen, *De meth. med.* 12.7 (10.856 K.)

⁷⁴ Galen, *De praecogn.* 11 (14.661 K.): ὅμως δ' ἐτόλμησα βασιλεῖ διατεινόμενος εἰπεῖν, ὅτε πρῶτον ἡψάμην, ἐναντίαν ἀπόφασιν ἣς αὐτός τε καθ' ἑαυτὸν ἐδόξαζε καὶ τῶν ἱατρῶν ἦκουε.

in a shirt would require a similar courage – and nowhere does Galen say so, nor in fact does anybody else in the whole classical tradition, insofar as I have been able to check. Emending a text, however, is a different matter entirely. There, too, one has to walk the fine line between rashly and wrongly emending what one has not properly grasped, and getting up the courage rightly to restore a text to its previous integrity. In both contexts, that of medical and that of philological intervention, we may find a combination of the terms τόλμα, τολμάω and ἐπανορθώω, or διορθώω.⁷⁵

διὸ καὶ πιθανῶς τις ἐπ’ αὐτῆς τῆς ῥήσεως ἔλεγε λείπειν ἀπόφασιν τὴν μὴ παραλελειμμένην ὑπὸ τοῦ πρῶτον τὸ βιβλίον μεταγραφασμένου, καθάπερ καὶ ἄλλα πολλὰ πολλάκις ἐν πολλοῖς βιβλίοις ὠμολόγηται τὰ μὲν παραλελειφθαι, τὰ δὲ ὑπερλάχθαι, μηδενὸς ὕστερον **ἐπανορθῶσαι τὰ ἡμαρτημένα τολμήσαντος**.

That is why it is a likely comment on this phrase that the negation *mē* was omitted by the first copyist. There are many other instances in many books where everyone agrees that something has been left out or changed, without anyone having dared to correct the mistakes later. Galen, *In Hipp. Prorrh. comment.* 2.92 (16.688 K.).

In this case, Galen explicitly rebukes people who cling to obscure or nonsensical texts in spite of the fact that it is well-known that many texts have undergone corruptions of some sort. Some overly conservative critics think they can show how clever they are by defending even what is patently false (*ibidem* 689 ἔνιοι δὲ καὶ τοῖς προφανῶς ἡμαρτημένοις συναγορεύειν ἐπίδειγμα σοφίας ἡγοῦνται). Such people are like evil lawyers, who defend obvious murderers. So the conservative critic may really be wrong. But Galen does admit it

⁷⁵ Philological rashness, e.g. Galen, *De diff. resp.* 3.3 (7.900 K.) καίτοι κἀνταῦθα παρακούοντές τινες ἐξ ὧν αὐτοὶ μὴ συνίασιν, **ἐπανορθοῦνται** καὶ **μεταγράφειν τὴν λέξιν τολμῶσιν**. Galen, *In Hipp. Prorrh. comment.* 2.53 (16.629 K.) deals with a difficult reading, which is in all the old manuscripts and is accepted by all interpreters – except some rash youngsters, who dare change it (μεταγράφουσιν) into something easier to interpret. Proposing an emendation seems reasonable to Galen under the circumstances, but one cannot claim that the text has always read what one has just introduced through daring emendation, and interpret it on that basis (τὸ δ’ ὡς οὕτως γεγραμμένον ἐξ ἀρχῆς, ὡς αὐτὸς **ἐτόλμησε μεταγράψαι**, τὴν ἐξήγησιν ποιεῖσθαι μέμψεως ἄξιον εἶναι νομίζω. For an overly rash critic, see also Galen, *In Hipp. Nat. Hom. comment.* 22 (15.171 K.). Rashness of the *neōteroi*, Galen, *In Hipp. Epid. VI comment.* 2.48 (17a.1003 K.), *In Hipp. Off. Med. comment.* pr. (18b.631 K.) (the τόλμα of recent interpreters). ‘Daring/rashness’ involved in declaring a work inauthentic: Galen, *De diff. resp.* 3.5 (7.913 K.).

takes courage to make the intervention.⁷⁶ The more daring critic is not just courageous, he should have *to pithanon* on his side. As Galen remarks elsewhere: ‘If one must by all means deviate from the ancient text, one should do so for a plausible reason’.⁷⁷

In a similar case, where all the manuscripts (*antigrapha*) and all the early commentators have a certain reading, one needs to know that a solitary *men*, not followed by *de*, is actually good and grammatical Greek. However, if one thinks that the particle *men* is redundant, one should have the courage to delete the word entirely, rather than change it to the negation *mē* which will make the text contradictory.⁷⁸

So in fact, there is a positive link between the doctor and the philologist in that both require courage and discretion in their diorthotic activities, in a way that links these two and opposes them to other maintenance and repair activities. And the reason why it is equally scary to cut into a patient and to delete a passage from a text, is that in both cases you are dealing with a valuable human being. You can damage and kill either your patient, or Hippocrates himself – in the form of his teaching and views. Destroying the text is destroying ideas:

εἰ δ’ ἔξεστι προστιθέναι τοῖς καταφατικῶς εἰρημένοις ἀποφάσεις, ἅπαν οὕτω τις διαφθείρει δόγμα καὶ γνώμην οὐδεμίαν φυλάξει τῶν παλαιῶν βεβαίαν.

If one can add negatives to positive statement, one will destroy all teaching and will not preserve intact any opinion of the Ancients. Galen, *In Hipp. Epid. VI comment. 2.65 sic* (17a.993 K.).

Getting to the *gnōmē* of Hippocrates is precisely what Galen formulates as the goal of interpretation, his objective in writing commentaries.⁷⁹

⁷⁶ Cf. Galen, *In Hipp. Artic. comment. 3* (18a.308 f. K.) ἔνιοι δὲ ἐγχωρεῖν φασιν **ἡμαρτήσθαι** τὴν λέξιν, **οὐκ ὀρθῶς** γράψαντος τοῦ πρώτου βιβλιογράφου, κάπειτα **μηδενὸς** αὐτὴν **ἐπανορθῶσαι** **τολμήσαντος** ἄχρι δεῦρο **διαφυλαχθῆναι τὴν ἀμαρτίαν**; *ibidem*, *In Hipp. Aph. comment. 30* (17b.645 K.) καὶ θαυμάσαι γέ ἐστι πῶς οὐκ ἔγραψεν ἐπ’ αὐτῆς μελαγχολίας, εὐρόν γε μὴν ἔν τισι τῶν ἀντιγράφων καὶ ταύτην γεγραμμένην, ἥτοι προσθεῖναι τὸ λείπον τολμήσαντός τινος ὡς παρεωραμένον ὑφ’ Ἱπποκράτους, ἢ τῶν ἄλλων ἡμαρτημένοις ἀντιγράφοις πιστευσάντων; Galen, *De diff. resp. 3.3* (7.900 K.) acknowledges the courage or rashness inherent in a philological verdict: τοῦ γραφέως ἀμάρτημα ὑπάρχειν αὐτὸ μᾶλλον ἢ Ἱπποκράτους εἰπεῖν ἐτόλμησα.

⁷⁷ Galen, *In Hipp. Epid. VI comment. 2.65 sic* (17a.992 K.).

⁷⁸ Galen, *In Hipp. Epid. VI comment. 2.21* (17a.937 K.).

⁷⁹ Galen, *In Hipp. Epid. III comment. 1.4* (17a.507 K.) ὁ λέγειν ἐπιχειρῶν ὁτιοῦν εἰς Ἱπποκράτειον σύγγραμμα τὴν ἐκείνου γνώμην ὀρθῶς ἂν ποιοῖτο σκοπὸν τῆς ἐξηγήσεως.

And obviously, in medical contexts, it is the task of the doctor to correct precisely what is being destroyed: αὐτὸ τὸ διαφθειρόμενον ἐπανορθοῦν.⁸⁰ In spite of Galen's rhetoric elsewhere, though, this apparently applies whether it is a body (through various affections)⁸¹ or an idea (through obscurity or textual corruption).⁸²

Conclusion

Where has all of this taken us? In this paper we have explored some aspects of the way in which two disciplines, grammar and medicine, were perceived to be related to each other in Antiquity. The linguistic tradition classifying medicine and grammar as sister disciplines, and the extensive tradition of using biological and medical metaphors for language and its products led to the expectation that the great doctor-philologist Galen would avail himself of this type of discourse. However, it turned out that medical overtones are significantly absent from Galen's rhetoric about philology and from his own linguistic discourse. Instead of comparing the remedying and corrective activities of the doctor to that of the textual critic, he connects medicine with weaving and architecture, and this in fact corresponds to his own, alternative classification of the sciences. But why this unexpected separation of medicine and grammar?

A likely explanation for this state of affairs is Galen's self-presentation as someone completely focused on content rather than form: if he is forced to discuss (grammatical, linguistic) form, he prefers to see that as a digression inflicted on him by the raging and dangerous incomprehension of elementary matter by others. He himself wishes to be no grammarian, but a philosophically trained doctor, and he has every interest in keeping those discourses separated as sharply as

⁸⁰ Galen, *De const. art. med.* 20 (1.303 K.)

⁸¹ E.g. Galen, *De const. art. med.* 20 (1.302 K.) τὴν ὑγείαν αὐτὴν διαφθεῖραι; *ibidem*, *In Hipp. Epid. I comment.* 1 pr. (17a.6 K.) (ἡ ὑγεία) διαφθαρήσεται; *ibidem*, *In Hipp. Progn. comment.* 1.1 (18b.2 K.) (ὑγείαν) διεφθαρμένην.

⁸² E.g. Galen, *In Hipp. Progn. comment.* 1.1 (18b.2.1-2 K.) μεγίστην λέξεως ἀρετὴν σαφήνειαν εἶναι... καὶ ταύτην... ὑπὸ τῶν ἀσυνήθων ὀνομάτων διαφθειρομένην. New-fangled, corrupted words: Galen, *De puls. differ.* 8.568 παρεφθαρμένοις (ὀνόμασι). Like διαφθεῖρω, λυμαίνομαι can also have both texts and patients as object, cf. Galen, *De puls. differ.* 2.2 (8.567 K.) μὴ λυμαινόμενος τῷ σαφεῖ τῆς ἐρμηνείας and Galen, *Ad Glau. de meth. med.* 1.10 (11.34 K.) λυμαινομένους τοῖς ἀρρώστοις, Galen, *De venae sect. adv. Erasistrateos* 6 (11.223 K.) λυμαίνονται τοῖς νοσοῦσιν.

possible, especially since he could easily come under the suspicion of having too great an interest in grammar. But he cannot quite manage to hide every trace of a view that corresponds more closely to his own intellectual practice, in which philology and medicine were joined in a happy marriage. In admitting that doctors and philologists both need courage and discretion to do what they do rightly, we see a trace of the common tradition linking grammar and medicine, and setting them apart from morally irrelevant activities such as house-repair and mending clothes.

It is important to notice how interconnected Galen's discursive practices are over his many works. The divisions of science and the classification of the disciplines tie in with his discursive practice when working on a medical text by Hippocrates. If medicine as practiced on patients is related to weaving and architecture, that comparison extends to the activities of the doctor in his 'grammatical' guise, while exerting himself on behalf of the medical literary tradition, the preservation of the great texts that are at the basis of the medical discipline. That doctor is not simply a philologist; rather, he functions in the same context and with the same tools that make the doctor a logical companion to the architect and the weaver.

Maybe the later linguistic tradition was happy to associate itself with the language of medicine, because medicine now seemed more prestigious than grammar. This had not always been the case. The doctors of the third century BC eagerly engaged in philological activities, very likely to borrow some of the prestige deriving from that work, a prestige testified to by the support of the Ptolemies in the Museum. However by the second century AD things have changed. The doctor Galen tries to impose stricter discursive boundaries and refuses to dignify grammar by using the language of medicine for it, even when engaging in top-rate philology at full throttle.

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Physician A Metapaedagogical Text

Lesley Dean-Jones

Summary

It has generally been thought that the short treatise *Physician* was written for the beginning medical student and as such it has been criticized for being so superficial as to be worthless for producing anything but an empty charade of a physician. There are also numerous cruces in the text on which scholars have failed to come to any consensus. This paper argues that by taking the audience of the treatise to be the beginning *instructor* rather than the beginning *student* the tone of and information included in the treatise can be seen to be appropriate and the textual cruces can all be explained with little or no amendment by the same hypothesis.

Every scholar who has commented on the audience for *Physician* has believed that the treatise was intended for the beginning medical student.¹ If this is the case, though, as Helen King has pointed out, the text operates on a central irony in that ‘in the very process of condemning deception, <it is> simultaneously teaching it.’² That is, if the treatise is addressed to the medical *student*, although the author pays lip-service to the need to uphold the integrity of the profession, his handbook is little more than an induction into quackery offering only the most superficial instruction in medical techniques. Nor can the nature of the text be explained by assuming it is a collection of a student’s own lecture notes. In chapter 13 at the end of the treatise the author refers to what has preceded as ‘the things which have been written down’ (τῶν γεγραμμένων).³ The text is not an adumbration of a more detailed oral presentation.

¹ E.g., Littré (1861) 199-200; Petrequin (1877) 199; Bensel (1922) 102; Fleischer (1939) 55; Potter, following Jones (1995) 299.

² King (1998) 42.

³ Hipp. *Medic.* 13 (9.218.13 L).

I do not dispute that the subject matter of *Physician* is the earliest stage of the medical education of an adult student.⁴ But if we assume that the intended audience is the novice *instructor* who is to provide the education rather than the student himself, the treatise falls into line with other Hippocratic works which warn against sharing medical knowledge with the uninitiated, and the author can be exonerated of the charge of intentionally producing a handbook for charlatans. He is aiming his remarks at a colleague who has been fully trained in medicine himself and merely needs direction in the best order in which to transmit his knowledge to indentured apprentices. This slight change in focus not only explains the whole tenor of the treatise, but also throws light on some of the more puzzling passages in the text.

The first of these is the opening sentence of the treatise which in the manuscript tradition reads Ἱητροῦ μὲν εἶναι προστασίην ὁρῆν εὐχρως τε καὶ εὐσαρκος ἔσται πρὸς τὴν ὑπάρχουσαν αὐτῷ φύσιν.⁵ The only other occurrence of προστασίη in the Hippocratics is in *Precepts* 10 where the author in discouraging the use of elaborate headgear and perfumes for self-promotion allows for a modicum of personal adornment because εὐχαρίη (urbanity) ‘is becoming a doctor’s προστασίη.’⁶ In this passage the word seems to bear the connotation of ‘dignity’ and it is generally assumed that in *Physician* 1 προστασίη has the same meaning.⁷

Heiberg prints the text as it stands in the mss., punctuating after προστασίην and treating the first four words as an introductory heading. This assumes an absolute use of the infinitive εἶναι that is used elsewhere in standard expressions such as ἐκὼν εἶναι, ‘willingly’, τὸ νῦν εἶναι, ‘regarding the present’ and τὸ κατὰ τοῦτον εἶναι, ‘as far as he is concerned’.⁸ The translation of his text would then run something like, ‘Regarding the dignity of a physician: he will be, to look at, of both good color and bodily condition with regard to his natural constitution.’ Many scholars accept the exegetical use of the infinitive ὁρῆν qualifying ἔσται, but there are some problems with it.

⁴ Traditionally doctors came from the ranks of a few medical families and would have been immersed in medical lore from childhood. Hipp. *Lex* 2-3 (4.638.13, 640.8-9 L.) recommends instruction from childhood, παιδομαθίη, and *Praec.* 13 (9.268.6-270.3 L.) is scathing on the faults of late-learning, ὀψιμαθίη.

⁵ Hipp. *Medic.* 1 (9.204.1-2 L.).

⁶ Hipp. *Praec.* 10 (9.266.13 L.).

⁷ But see below p. 55.

⁸ See Smyth 2012 and also Pl. *Prot.* 317a1 and Is. *Men.* 32. I am assuming this is Heiberg’s understanding of the text. His edition contains no commentary or translation.

Petrequin suggests that if this were its function it would more likely appear as ὁρᾶσθαι ‘to be looked at’. However, infinitives limiting adjectives in Greek are more often active than passive. The real objections to this interpretation of ὁρῆν here are that the exegetic infinitive of ὁράω is primarily a poetic construction which tends to use the aorist infinitive, ἰδεῖν, rather than the present and that there is no emotive content to the adjectives here as is normally the case with the exegetic use of ὁράω.⁹ Furthermore, the qualification of εὐχρως τε καὶ εὐσαρκος by the phrase πρὸς τὴν ὑπάρχουσιν αὐτῷ φύσιν renders the exegetic infinitive here otiose, if not contradictory. A color and bodily condition which are good in mere appearance could be deceptive, which would not be the case if they are in a good state with regard to an individual’s natural constitution.

In 1579, Zwinger (the first editor after the Aldine edition) added ὥς after ὁρῆν. This reading was adopted by Mercurialis in 1588, Van der Linden in 1665 and Petrequin in 1877. Petrequin translates, ‘It is a rule of conduct for the doctor to see how he can be of good color and bodily condition with regard to his natural constitution.’ But I can find no other example of ὁράω used in this way; when ὁράω is used with ὥς it usually refers to a state of affairs that can be perceived intellectually, not to a process yet to be elucidated. Moreover, as the direct form of the question would have been deliberative we would expect the present subjunctive, ἦ, not the future indicative, ἔσται, in the subordinate clause. It seems more likely to me that Zwinger intended the ὥς to be dependent upon the introductory phrase and to retain the exegetic use of ὁρῆν. Ermerins, in his 1859 edition emended the accusative and infinitive εἶναι προστασίην to a nominative and indicative ἐστὶ προστασίη and omitted ἔσται. Littré accepted this reading and translated, ‘La règle du médecin doit être d’ avoir une bonne couleur et de l’ embonpoint, suivant ce que comporte sa nature’.¹⁰ To get ‘doit être d’ avoir’ from ἐστὶ ὁρῆν we have to understand an infinitive εἶναι, and since the subject of the infinitive would be the doctor and not the προστασίη, if we remove the finite ἔσται it is hard to explain why the adjectives εὐχρως τε καὶ εὐσαρκος are nominative. Furthermore, Ermerins’ emendation does not account for how προστασίη became

⁹ As we see for instance at Hom. *Il.* 5.725, θαῦμα ἰδέσθαι, and S. *Ant.* 206, αἰκισθέν τ’ ἰδεῖν.

¹⁰ Hipp. *Medic.* 1 (9.205.1-2 L).

accusative, ἔστι became εἶναι and why ἔσται was imported into the text.

In his 1922 edition, Bensel argued that if ὥς was originally in the text, εἶναι almost certainly wasn't because the omission of ὥς is most easily explained if its palaeographic abbreviation (Ϟ) was misread as the abbreviation for εἶναι (ϙ).¹¹ When the abbreviation was read as an infinitive, he argued, it was moved to a position before the original προστάσις which was thereupon changed to the accusative to give εἶναι a subject. He therefore adopted a hybrid of Zwinger and Ermerins, taking προστάσις as the subject of an understood ἔστι. He paraphrases rather than translates the sentence: 'The author of *Physician* urges the physician to exhibit a suitably colored and well-fleshed body with the purpose of increasing the authority of the physician.'¹² It is unclear to me exactly how he is construing the Greek here.

Jones did not accept Petrequin's or Bensel's arguments and in his 1923 Loeb edition printed Ermerins' emendation, translating it as, 'The dignity of a physician requires that he should look healthy, and as plump as nature intended him to be.' Here Jones takes the exegetical force of ὀρεῖν with εὖχρως alone and takes the phrase πρὸς τὴν ὑπάρχουσαν αὐτῷ φύσιν to be modifying only εὖσαρκος. The nominative form of the adjectives do not appear to concern him. In the latest Loeb edition (1995) Potter reverts to Zwinger's text but reprints the Jones' translation of the Ermerins text, perhaps indicating that he thinks it's all a storm in a teacup.

I would sympathize with this point of view if it were not for the fact that I think the assumption that we can understand the basic purport of the author whatever the actual text has led to the failure to see another possible meaning of the sentence, one which involves minimal emendation and which sets the stage for the rest of the treatise.

I would suggest that we insert not ὥς but ὅπως before εὖχρως. The identical syllable at the end of both words would explain the copyist's eye skipping over ὅπως whether or not it was written in abbreviated form. -ως as an ultima could be abbreviated to an elongated s-shape above the word, so ὅπως could appear as (Ϟ^ω).¹³ The fact that the

¹¹ Bensel (1922) 126.

¹² *Atque scriptor libri De medico suadet medico, ut corpus probe coloratum et bene carnosum praebeat ad auctoritatem medici augendam*, Bensel (1922) 93.

¹³ Zereteli (1896) Table 30. I am grateful to Andrew Faulkner for this reference. Unfortunately this does not seem close enough to the siglum for εἶναι for the

aspirated initial vowel repeats the first letter of the previous word would have contributed to the copyist's eye skipping over the word. Obviously, the phrase ὄρα ὅπως + future indicative is a standard form of directive in Greek, 'see to it that...'. The infinitive is the most common way to form an imperative in the *Hippocratic Corpus*, so ὀρῆν would naturally be used for ὄρα.¹⁴ There is therefore no need to make προστάσις the subject of the sentence; it can remain as an accusative of respect with or without εἶναι¹⁵ and the opening of the treatise will read, 'Regarding the dignity of a physician. See to it that he is of good color and bodily condition as regards his natural constitution.' This reading differs from all previous readings in reading ὀρῆν as a second person imperative.¹⁶ Because ἔσται is third person, taking ὀρῆν as second entails that the intended audience of the treatise is different from the object of discourse, the beginning student.

The original title of the treatise may have made this evident, but it seems almost certain that we have lost it. Since Antiquity it has been known, like many Hippocratic treatises, by its first two words, which in this case, 'Concerning the doctor', are singularly uninformative about the contents. There are possible meanings for προστάσις which would make the first four words suitable as a title for a treatise aimed at a teacher of medicine. One of these is authority over or supervision of someone or something; but if this were its meaning here we would expect the objective genitive to be something like μάθοντος, 'Regarding the supervision of a *student*,' rather than ἡτροῦ. προστάσις can also mean basic professional competence, as it seems to in Soranus'

disappearance of ὅπως to simultaneously account for the appearance of the infinitive with προστάσιν.

¹⁴ The author uses the formulation συνορῆν ὅπως / ὅκως in chapters 3 & 4.

¹⁵ Whether we allow εἶναι to stand in an absolute sense or remove it as a copyist's attempt to make sense of the text after ὅπως dropped out does not affect the meaning of the sentence if we retain the mss. reading of προστάσιν.

¹⁶ It is true that infinitives do also function as third person imperatives in the *Hippocratic Corpus*, as I think most of the imperatival infinitives in the rest of *Physician* do, but Hippocratic authors can mix second and third person uses of the imperatival infinitive even within the same sentence. For example, instructions to the doctor on actions *he* should perform when treating a patient, many of them in the infinitive, often include infinitive directives to drink, eat, abstain from or have intercourse, though clearly these are actions the patient should perform, e.g., Hipp. *Acut.* 6 (2.412.12 L.), *Morb.* 3.2 (7.120.7 L.), *Int.* 37 (7.260.1 L.), *Mul.* 1.12 and 37 (8.48.19 and 92.12 L.). My preference for reading ὀρῆν as a second rather than as a third person imperative is, as will become clear, bolstered by the tenor of the rest of the treatise.

Gynaecia 1.3 where Soranus contrasts the competent midwife who has the minimum of skills with the best midwife who has considerable experience and understands the theory behind the medical practice *in addition to* professional competence (πρὸς τῇ προστάσει). If the word were to carry this connotation in *Physician* 1 the opening words of the treatise would mean ‘Regarding the basic skills of a doctor’ which would again be applicable to the whole treatise. However, if the first four words did apply to the entire treatise we would have to treat μὲν as μὲν solitarium, which seems unlikely in a title.

The appearance and bearing of the physician are the subject matter of only the first chapter of the treatise, and the appearance of μὲν in the chapter heading may be intended to indicate as much. The dignity or authoritative bearing of the doctor is the subject matter of the entire chapter and although there are several δὲς within the chapter none makes a suitable contrast with the initial μὲν until the beginning of chapter 2 where the author turns to the precepts that are to be imparted to the medical student. It is noteworthy that the deontological material is not presented as precepts that should be taught. That is, the μὲν... δὲ construction is contrasting not instruction in two different types of subject matter but instruction and the type of person who should receive it.¹⁷ A similar use of μὲν... δὲ at the beginning of the first and second chapters to contrast the somewhat different focus of the first chapter with the rest of the treatise is found in *Nature of Man* and *Hemorrhoids*.

Chapter 1 of *Physician* takes the form it does because it is giving advice to the novice instructor on how to determine which pupils to accept and which to reject before beginning their instruction; it is neither a homeless deontological chapter that somehow got attached to a surgical treatise nor a how-to guide for quacks. It is integral to the whole program of the treatise. As Soranus says in reference to his list of criteria for identifying suitable candidates for training as midwives, ‘This section is of use in preventing pointless effort and the indiscriminate teaching of unsuitable people.’¹⁸

¹⁷ Fleischer argued that not only the title but the original first chapter of the treatise was missing since he did not believe that a protreptic text aimed at the rank beginner would have opened with a discussion of the dignity of a physician; he argues that there would most likely have been an introductory chapter on the medical art itself, Fleischer (1939) 53-54. But such a chapter would be unnecessary if the intended audience was already fully immersed in the art.

¹⁸ Εὐχρηστος μὲν ὁ λόγος πρὸς τὸ μὴ δια κενῆς πονεῖν καὶ τὰς ἀνεπιτηδείους διδάξαι προσδεχομένως, Sor. *Gynaecia* 1.3.

After indicating what a doctor should look like and how he should be dressed, the author proceeds to the psychic endowments a *iatros* must have. This makes sense if it is meant as advice to the novice instructor on how to assess the potential of a prospective student. He is to begin with initial visual impressions and proceed to judgments on character which can only be made on further acquaintance. If the intended audience were the aspiring *iatros* himself we might expect the author to begin with the necessary qualities of the *psyche* in the expectation that the requisite physical appearance would follow naturally.

After explaining why a *iatros* needs to have a clean and modest appearance ('for all these things are pleasing to those who are ill'),¹⁹ the transition to the requisite inner qualities appears in the mss. as:

δεῖ δὲ τοῦτον σκοπεῖν τάδε περὶ τὴν ψυχὴν σώφρονα μὴ μόνον τὸ σιγᾶν ἀλλὰ καὶ περὶ τὸν βίον πάνν εὖτακτον.

If the author is addressing the novice instructor τοῦτον can be taken as the object of σκοπεῖν and the sentence translated unproblematically as,

And it is necessary to examine this man with respect to the following things concerning the soul, that he is temperate not only in keeping silent but also concerning a thoroughly well-ordered life. Hipp. *Medic.* 1 (9.204.6-8 L.).²⁰

If the audience of the treatise is *not* different from the object of discourse, however, the meaning of this transition is very unclear. If there are not two people involved in the examination τοῦτον cannot be an object. Petrequin read it as the subject of σκοπεῖν, claiming it was used as a simple pronoun, 'he'. No other editor has found this satisfactory and most prefer to understand the pronoun-subject of σκοπεῖν and simply seclude τοῦτον. Jones supplied the masculine definite article τὸν before σώφρονα to make it the subject. Other editors, who take σώφρονα with ψυχὴν, supply the feminine definite article, τὴν. In all these readings the object of σκοπεῖν is taken to be τάδε περὶ τὴν ψυχὴν (<τὴν> σώφρονα):

¹⁹ Hipp. *Medic.* 1 (9.204.5-6 L. ἅπαντα ταῦτα γὰρ ἡδέως ἔχειν ξυμβαίνει τοὺς νοσέοντας.

²⁰ Not gossiping is an important element in all Hippocratic deontological treatises, e.g. *Jusj.* (4.630.15-632.1 L.), *Decent.* 7 (9.236.7 L.).

It is necessary for him/the prudent man to examine/be careful of these things concerning the (prudent) soul, not only keeping his silence but also concerning a thoroughly well-ordered life.

But this locution has the author recommending that the prospective doctor undertake the philosophical examination of what an ethical life would be rather than, as seems more probable, assuming that such a life is generally recognized and enjoining him to follow it. It is perhaps in recognition of this that Jones translates σκοπέειν in this instance as ‘be careful of’.

Heiberg and Potter address the problem by adopting the reading of V, τοῦτο, taking the initial four words of the transitional phrase as the end of the previous sentence, which was ‘For all these things are pleasing to people who are ill.’ But the use of τοῦτο to refer back to ἅπαντα ταῦτα immediately preceding it is strange. Moreover, the sentence ‘For all these things are pleasing to people who are ill,’ itself gave the reason for the directives in the previous sentence, ‘He must be clean in person, well dressed, and anointed with sweet-smelling unguents that are beyond suspicion.’ To reiterate ‘he must pay attention to it’ is unnecessary and weakens the sentence. This interpretation also requires understanding a very weak force of σκοπέειν. Heiberg and Potter then separate τὰ δὲ at the beginning of the next sentence and read, ‘In matters of the mind let him be prudent.’ But the phrase τὰ δὲ περὶ ψυχὴν adds nothing to the meaning of σώφρωνα. Where else could one manifest prudence but in the ψυχῇ?

Furthermore, simply directing somebody who is not already σώφρων to become so rarely works, and the author is not advocating the mere semblance of prudence. A doctor really has to be σώφρων. It seems unlikely that the author would be so sanguine as to believe that a person who is ἀσώφρων would recognize the fact or voluntarily disqualify himself from becoming a *iatros* if he did so. The advice would only be useful if aimed at someone who could act as a gatekeeper for the profession.²¹ Similar arguments hold for the observation that a doctor should be ‘a gentleman,’ (καλὸν καὶ ἀγαθόν) and that his countenance should be ‘serious but not harsh’ (σύννουν μὴ πικρῶς).²² None of this is to deny that a part of ancient medical instruction, as today, would be deontological, but the status of medicine in the ancient world depended to such an extent on the reputation of its

²¹ The primary audience Soranus had in mind for the opening chapters of his *Gynaecia*.

²² Hipp. *Medic.* 1 (9.204.9 and 206.2 L).

individual practitioners that no responsible physician would rely on a reading of this chapter to inculcate the medical ethos in those entering the profession.

When discussing the moral requirements of a *iatros* the author says that he should be ‘both grave and kind to all. For a ready glibness (τὸ προπετές καὶ τὸ πρόχειρον) is held in contempt (καταφρονεῖται), even if it is very useful.’ There then follows an extremely puzzling sentence. σκοπὸν δὲ ἐπὶ τῆς ἐξουσίης· τὰ γὰρ αὐτὰ παρὰ τοῖς αὐτοῖς σπανίως ἔχουσιν ἀγαπᾶται.²³ Potter remarks in a footnote, ‘The only thing scholars agree upon about this passage is its difficulty.’²⁴ Those who retain the mss. reading, like Potter, simply supply εἶναι, lit. ‘Let him be a watcher over...’. Others, like Jones, accept Foës emendation to σκεπτόν, ‘He must watch over...’. Petrequin suggested the emendation σκοπέειν, ‘Let him watch over...’. The first option (supplying εἶναι) is palaeographically unproblematic, but it is very peculiar Greek, even for this author. And the other two suggestions do not account for the corruption to the *lectio difficilior* σκοπὸν. All readings, though, assume that a directive is being given in the third person to the aspiring *iatros* to be vigilant about something; the real debating point among earlier commentators has been what this ἐξουσίη is. Potter translates:

Let him look to the liberty of action that is his; for the same things, if done but seldom to the same patients, are appreciated.

There is here an assumption that παρὰ τοῖς αὐτοῖς σπανίως ἔχουσιν refers to patients, but this translation requires giving the meaning of something like ‘meet with’ to the verb ἔχω rather than, as one would expect if it is to be taken closely with the adverb, ‘to be’. The repetition of the modifier αὐτός seems to further complicate matters. No group of patients has been mentioned with which this group can be identified. If ἔχω can mean ‘meet with’ the meaning of the sentence would be clearer, it seems to me, with the exclusion of αὐτοῖς: The same things are appreciated among those who seldom meet with them.

What ‘the same things’ are is perhaps the least difficult part of the sentence to understand. τὰ αὐτὰ must refer back to τὸ προπετές καὶ τὸ πρόχειρον. The author seems to be saying that the ambiguous quality of

²³ Hipp. *Medic.* 1 (9.204.10-206.1 L).

²⁴ Potter (1995) 301.

this ‘ready glibness’ leads to its being pleasing in situations where it is used sparingly. σκοπόν δὲ ἐπὶ τῆς ἐξουσίης seems to be suggesting a way to avail oneself of the useful potential of this behaviour. The doctor must judge the occasions for ‘a ready glibness’ on the basis of his ἐξουσίη. This word means power, authority or license and in this interpretation has to be taken to mean something like ‘the license to control his own behavior.’ Jones follows this reading in his translation:

Let him look to the liberty of action that is his; for when the same things are rarely presented to the same person there is content

but he comments, ‘it is more than doubtful that the Greek will bear this meaning.’

The sequence of argument becomes clearer if we emend σκοπόν to σκοποῦ. It is then an injunction to the instructor. There is often no distinction in meaning between the active and middle voices of σκοπέω, but it may be that in contrast to his use of the active voice of the infinitive σκοπεῖν a few lines before, for which I argued τοῦτον was the object, the use of the middle imperative here indicates that the novice instructor is to examine his own authority over his students because although a ready glibness is to be avoided, ‘the same <ready glibness> is pleasing in the same men who can do/are like this only occasionally.’²⁵ Here ‘the same men’ refers back to the successful doctors who have just been mentioned who are normally ‘grave and kind to all.’ This interpretation may be helped by the insertion of οὕτως, but I don’t think it’s strictly necessary.

A corruption of exactly the same kind as σκοποῦ to σκοπόν occurs in chapter 12 of *Physician* (which I shall discuss in greater detail below). There the reader is told to ‘fit (ἀρμόζου) the medicated linen to the wound and use (χρῶ) the cataplasm at the place of the wound in a circle.’ The Vatican manuscript, which is generally acknowledged to hold the best readings for *Physician*, reads not ἀρμόζου but ἀρμόζον. The Paris manuscript however, reads ἀρμόζου, and this has been accepted by every editor because it is an easy emendation, easy to construe and in line with the second person imperative χρῶ, present in all mss., at the end of the sentence.²⁶ Despite this, the corresponding simple correction of σκοπόν in chapter 1 to a second person middle

²⁵ Many students would attest to the paedagogical validity of this remark.

²⁶ Ermerins wanted to emend to ἀρμόζειν, presumably to bring it into line with the imperatival infinitives elsewhere in the treatise.

imperative has not suggested itself to any previous editor. They have all believed that the audience of the treatise was the beginner in medicine who is clearly referred to throughout the first chapter in the third person. Introducing a second person middle imperative here entails that the audience is someone other than the student himself, most likely the man who will be instructing him.

The author also seems to be addressing himself to a colleague rather than a student in the opening sentence of the second chapter:

Τὰ δὲ εἰς ἱητρικὴν τέχνην παραγγέλματα, δι' ὧν ἔστιν εἶναι τεχνικόν, ἀπ' ἀρχῆς συνοπτέον. ἀφ' ὧν καὶ μανθάνειν ἄνθρωπος ἄρξαιτο.

Regarding the precepts pertaining to the medical art through which it is possible to be skilled. You must first survey from which of these an individual should begin to learn. Hipp. *Medic.* 2 (9.206.11-13 L).

In the Greek after the chapter heading the instruction to the reader is expressed by the impersonal συνοπτέον, not the imperative as in chapter 1, . but it is clearly not an obligation that can be placed on the student himself. Quite apart from the fact that the term ἄνθρωπος would be a strange way to refer to the beginner in medicine if he was the intended audience for the treatise, the verb συνοράω implies the ability to see a range of options that somebody unversed in medicine would not have.²⁷ Similarly the qualifying σχεδόν in the following sentence, 'Now the things treated in the surgery are *perhaps* the proper subject matter of learners,' is not calculated to inspire confidence in a student that the author knows what he's talking about, but it does function to mitigate the assertive tone of the author if he is addressing himself to a fully trained doctor who might, for example, have chosen to begin the medical instruction of a mature student by describing the disease process.

The same verb, συνοράω, reappears in chapters 3 and 4... Chapter 3 begins with the sentence: Τὰ δὲ προσφερόμενα ἅπαντα μὲν χρή συνορῆν ὅπως συνοίσει²⁸ 'It is necessary to survey all the things applied so that they are beneficial.' Here again συνοράω implies the ability to survey the full range of applications before making a selection

²⁷ There is an unusual number and fullness of exempla for this verb in *LSJ* with comparatively few suggestions for translation. Although *LSJ* does not suggest 'survey' as a possible translation it would be appropriate for many of the exempla, almost all of which imply an overview of a large set.

²⁸ Hipp. *Medic.* 3 (9.208.9 L).

– a knowledge which by definition the student can't have. It is, though, something the teacher can do for the student in explaining why he is choosing a certain application. In chapter 4 the verb συνοράω is used again in the sentence:

πρὸς δὲ τοὺς χρόνους τῆς ὥρης. πότε δεῖ σκεπαστικῶς καὶ μὴ. συνορῆν ὅκως μηδὲ ἀσθενῇ λεληθὸς.

With regard to the times of the season, survey when it is necessary to cover a bandage and when not so that the occasion of the use of either of these should not escape the notice of the patient either. *Hipp. Medic.* 4 (9.208.20 L).

The phrase μηδὲ ἀσθενῇ λεληθὸς has called forth almost as many emendations as there have been editors. Bensel simply obelizes it. At issue are both why a doctor would reveal any part of the medical art to a layman and to whose notice is the patient's being added by μηδὲ. If we take the imperative συνορῆν to be directed to the instructor (again, surveying a range of options is not an action easily undertaken by a beginner with no previous instruction) the author is advising him to survey the options on covering and uncovering the bandage for his student as he did in the case of the applications in chapter 3, . and in this case also (the additive force of the μηδὲ) for the sake of the patient—perhaps so that if the weather changes he'll know what precautions to take. *Physician* chapters 3 and 4 are the only two citations *LSJ* gives for συνοράω to attest to the meaning 'pay attention to, see to a thing,' as if it were the simple uncompounded ὁράω. This is the meaning that has been assumed by all translators, presumably because asking a student to survey a range of options he isn't supposed to know yet would be illogical. But if the directive is aimed at an instructor it is not only good pedagogy but it allows us to retain the normal semantic range of συνοράω.

It is not just philological points which suggest the author expects his reader to be a colleague rather than a beginning student. The nature of the topics and the depth with which he covers them also suggest that he sees himself as addressing a reader of some experience.

Having fixed on 'the things treated in the surgery' as the starting point of medical instruction, *Physician* proceeds immediately to the disposition and furnishing of the surgery itself. Clearly the author envisages the student as learning on the job, but could he really expect him to begin by setting up his own surgery? If he did, these instructions would be woefully inadequate. Most of the chapter is concerned with

how the surgery should be situated with regard to light, perhaps because the author felt this point was so basic that a novice instructor might forget to point it out. As far as equipment is concerned we are told that couches should as far as possible be level,²⁹ bronze should be avoided as vulgar ostentation (καλλωπισμὸς φορτικὸς) except for instruments and these should be ‘fitted for their use’ (εὐήρη πρὸς τὴν χρείαν), water should be potable and there should be soft, clean linen swabs for eyes and sponges for wounds, for these serve well by themselves (αὐτόματα).³⁰ The cursory nature of this catalogue is appropriate more for indicating to the instructor the sorts of things to which he should draw his student’s attention, or the points on which the author disagrees with other physicians the instructor may have learned from,³¹ than as a blueprint for equipping a professional establishment from scratch. It is true that the treatise *Surgery* which is clearly meant for beginning students of medicine,³² discusses the light in the surgery in great detail, but this is in the context of describing how a physician should situate himself, his patient and his helpers with regard to the light. It assumes the reader will be learning in an established surgery, not that he is setting one up.

The author ends chapter 3 with the remark:

καί τι ποιῆσαι ὅκου χρή. μάλλον τε καὶ ἥσσον ἐσκέψθαι δεῖ· τούτων γὰρ ἀμφοτέρων ἡ χρήσις εὐκαιρὸς τε καὶ μὴ γενομένων μεγάλην ἔχει διαφορὴν.

And where it is necessary to do something it is necessary to have considered <doing> both more and less. For the use of both of these is a matter of good timing and it makes a big difference if they <i.e. the consideration of them> did not arise. Hipp. *Medic.* 3 (9.208.15-17 L).

Although this is obviously a matter of some importance the author does not touch on it again. There is no indication of any criteria that should be taken into account when determining the degree of treatment. If the treatise is aimed at students it seems to be saying, ‘This is what you really need to know before you do anything, but I’m not going to tell you how to do it, so anything you may learn from this book cannot be

²⁹ There is no consensus on the meaning of this sentence.

³⁰ Hipp. *Medic.* 2 (9.208.1-8 L).

³¹ E.g., Hipp. *Off.* 13 (3.316.4 L.) refers to the need to consider the temperature and amount of water not its potability.

³² Hipp. *Off.* 7 even mentions exercises which have been assigned to practice bandaging (3.290.4-5 L.).

put into practice.’ On the other hand, if the book was written for instructors the author is simply reminding the teacher to explain to his apprentices his reasons for using whatever amount of treatment he deems necessary in each case.

All the topics treated in *Physician* receive the same cursory treatment, often with an indication that the author disagrees with the practices of other doctors. In chapter 4 the author explains that bandages can either exert pressure or be loose and that sometimes one is needed and sometimes another, but again he doesn’t indicate what these occasions might be. Rather, a good third of the short chapter is given over to an injunction to eschew the use of elaborate, showy bandages. By contrast, 75% of *Surgery* (a longer body of text than the whole of *Physician*) is given over to the discussion of bandages.

Chapter 5 of *Surgery* opens by saying, ‘As to instruments, the time and manner of their use will be discussed,’³³ but no such discussion appears in the treatise. Given the detail with which the author explains bandaging it is safe to assume he is not referring to the discussion of incision in chapters 5-8 of *Physician*. I will comment on chapter 7. below, but the information to be gleaned from the other three chapters is woefully inadequate for a beginner in medicine. In chapter 5 we learn that a single incision must be made quickly but many incisions should be made slowly to give the patient a breathing space. In chapter 6 the author states that he recommends pointed scalpels which make narrow slits for varicose veins and other parts of the body from which blood flows readily and is not easy to staunch, and broad scalpels in ‘undangerous locations,’ (ἀκινδύνολους τόπους). A student would assuredly be very grateful for any indication as to what these locations are, but none is forthcoming in the treatise. chapter 8 says that incised vessels must be ligated. The author’s reasons for recommending this, though, aren’t simply hemostatic.³⁴ He says ligation is particularly necessary with the vessels in the arm because these are not attached to the skin and the end of an incised vessel can slip back under the skin causing the escaping blood to be trapped and turn to pus. Although he adds this anatomical detail the author does not suggest any suitable material for the ligatures, nor how to twist the bleeding vessel while tying it off.

³³ Hipp. *Off.* 5 (3.288.5 L.) ὄργανα μὲν καὶ ὅτε, καὶ ὥς, εἰρήσεται.

³⁴ The use of cupping instruments made it possible to draw large amounts of blood from a small incision that would generally close over naturally.

And this is not the author's most cavalier treatment of surgical technique. Chapter 9, in its entirety, reads:

τὰ μὲν οὖν κατ' ἰητρεῖον ἀναγκαῖα ὄργανα. καὶ περὶ ἃ δεῖ τεχνικὸν εἶναι τὸν μανθάνοντα. ταῦτ' ἐστὶν· ὀδοντάγρησι γὰρ σταφυλάγρησι χρῆσθαι τὸν τυχόντα ἐστὶν· ἀπλὴ γὰρ ἡ χρῆσις αὐτῶν εἶναι δοκεῖ.

These then are the instruments necessary in the surgery, and concerning which it is necessary that the student be trained. Any chance comer can use the tooth-forceps and the uvula-forceps, for their use seems to be straightforward.

It may be the case that once the tooth and uvula forceps had been identified and differentiated from one another their basic application was self-evident, but the student still requires some indication of *when* to use them, not to mention advice on patient preparation and after-care – and the number of assistants a doctor should have on hand to hold the patient down. The author does not elaborate on these points in the text because all he intends to do is indicate to the instructor the order in which he should introduce the instruments to the student.

That there is a lot more to even the early stages of medical education is made explicit in chapter 13. . Again in its entirety it reads:

Περὶ δὲ καιρῶν. ὁκότε τούτοις ἐκάστοις χρηστέον ἐστί. καὶ τὰς δυνάμιας ὡς χρὴ τῶν γεγραμμένων καταμανθάνειν. παραλέλειπται δὲ τὰ τοιαῦτα. ἐπεὶ πλείω προῆκται τῆς κατ' ἰητρικὴν ἐπιμελείας καὶ πόρρω τοῦ τῆς τέχνης ἤδη προεληλυθότας ἐστίν.

Concerning the occasions on which each of these things must be used and how one should learn how the things that have been described have an effect, such things have been left to one side, since they go further into the practice of medicine and are the province of one who has already progressed further into the art. Hipp. *Medic.* 13 (9.218.12-15 L).

That a doctor might have a number of apprentices at different stages in their training is shown by a remark in *Decorum*. In chapter 17 . the author advises the doctor in certain situations to leave behind one of his students (μανθάνοντες) to oversee patient care, recommending that he should 'choose from these those who have already grasped the affairs of the art, so they can add anything necessary, and give treatment safely.'³⁵ The aim of *Physician* is to explain to the reader which basic

³⁵ ἐκλέγεσθαι δὲ αὐτῶν τοὺς ἤδη ἐς τὰ τῆς τέχνης εἰλημμένους προσδοῦναι τι τῶν ἐς τὸ χρέος, ἢ ἀσφαλῶς προσεεγχεῖν (9.242.11-12 L.).

skills and techniques his most inexperienced adult apprentices should first practice under their master's watchful eye. Only when these have been mastered should the student proceed to instruction about *when* certain forms of treatment are called for over others so that he can make decisions independently. No student could derive his medical instruction from *Physician* alone because, even if the text were more explicit on the techniques it refers to, he would not know when to scarify and when to cup; when to leave a bandage loose and when to wrap it tight. Nor would it function well as a student supplement to oral education (as would, e.g., *Surgery*); it talks too broadly in terms of categories of things that are to be learned rather than giving specific information on, e.g., how to wrap a bandage, tie a ligation, crush the uvula. The categories are too broad to be useful even as mere mnemonics for the material covered in a lesson. They would suffice, however, to indicate to somebody who already knew the material well what aspect of, e.g., bandaging he should teach the beginner.

There are three further philological aspects of *Physician* indicating that the author always conceived of the student in the third person as an object of discourse, never in the second person as a reader of the text.

The first of these is that although Hippocratic authors generally give their directives for medical procedures in impersonal constructions such as χρή, δεῖ and the -τεον suffix or by the imperatival infinitive, second person imperatives can also occur sprinkled throughout a treatise.³⁶ However, with regard to medical procedures this type of imperative occurs in *Physician* in only one sentence – that in chapter 12.³⁷ where the author says:

When the use of linen bandages with medications applied to them seems indicated in an ailment, fit (ἀρμόζου) the medicated linen to the lesion, and employ (χρῶ) the cataplasm around the area of the lesion in a circle. Hipp. *Medic.* 12 (9.218.4-7 L.)

We have here, apparently, the author giving the reader elementary clinical instructions in the second person. This would undercut my interpretation of the audience of the text if chapter 12 were not more than a little anomalous. Firstly, the two chapters that precede it deal with the topic of φύματα, growths. Chapter 10 makes allusions to allowing the growth to mature in a restricted space without rupturing

³⁶ E.g., *Morb.* 3.6, 14, 16 (7.124.16-17, 134.23, 154.7 L.).

³⁷ σκοποῦ in chapter 1 does not refer to a medical procedure.

and chapter 11 lists the types of growths. No other chapter in *Physician* deals with a disorder. Three times during the course of these two chapters it is stated that aspects of this subject matter have been dealt with elsewhere. The subject matter of chapters 10 and 11 seems divorced from and at a more advanced level than the topics touched upon in the rest of the treatise. Similarly chapter 12 seems out of place, in the first place because the topic of cataplasms would fit better after the discussion of bandaging in chapter 4 than after the discussion of surgical instruments in chapters 5-9, or the discussion of growths in chapters 10 & 11. Then, unlike any other chapter in the treatise it goes on to mention the δύναμις of the technique described, the very thing chapter 13 says has been ‘left to one side.’ ἐδόκει γὰρ τῷ μὲν ἔλκει βοηθεῖν ἢ τῶν περιτιθεμένων δύναμις, τὸ δ’ ὁθόνιον φυλάσσειν. ‘For the effect of what has been placed around the lesion seems to help it and the linen bandage protects it.’³⁸ It is by no means unusual for the ends of Hippocratic treatises to become contaminated with extraneous material. In fact it is almost the rule. It seems that owners of texts would jot down their own observations or interesting passages from other treatises at the end of their scroll or book and these would be assimilated into the text by later copyists. This seems to me to be the best explanation of the presence of chapters 10-12 at the end of *Physician*. I do not, therefore, feel that the presence of the second person imperatives in this chapter undermines my hypothesis as seriously as it would if they were to appear in earlier chapters.

There is another notable omission of second person forms. In other treatises where the instruction in medical procedure is directed at the reader of the text, even where the infinitive is used for the imperative, second person forms tend to appear in subordinate clauses requiring the use of moods other than the infinitive.³⁹ Such situations in *Physician* are not common, but when they do occur third person forms are used. At the end of chapter 6 when the author commands the use of broad scalpels in ‘undangerous places’ with the infinitive χρῆσθαι, he remarks, ‘it is very disgraceful not to achieve with an operation what one wishes to’, ὅ τι θέλει.⁴⁰ In chapter 7 an imperatival infinitive is preceded by a third person subjunctive in an indefinite temporal clause, ‘When one scarifies, take it from below,’ ὅταν δὲ κατακρούῃ, κάτωθεν

³⁸ Hipp. *Medic.* 12 (9.218.8-10 L).

³⁹ E.g., *Int.* 2, 3, 6, 9 (7.174.15, 176.16, 182.14, 188.10 L.).

⁴⁰ Hipp. *Medic.* 6 (9.212.9 L. Not, ‘what you wish to’ as in Potter’s translation.

δέχεσθαι.⁴¹ That κατακρούη is not a second person middle is shown by the active voice of the complementary infinitive later in the sentence, ἄλλως δὲ οὐδὲ τὸν κύκλον τὸν ἐλκυσθέντα χρή κατακρούειν, ‘Otherwise one should not scarify even the circle <of flesh> that has been drawn into the cup’.⁴² In the final chapter, the third person of the optative is used to refer to a student who wishes to gain experience in treating military wounds. The author says that it is necessary (δεῖ) for such a person to serve with an army abroad, ‘for thus *he* would become experienced in this practice,’ οὕτω γὰρ ἂν εἴη γεγυμνασμένος πρὸς ταύτην τὴν χρεῖαν.⁴³

Thirdly, when a Hippocratic text is explaining to a doctor what instructions he should give to a patient under his supervision, rather than using a second person imperative (e.g., ‘tell him to...’, ‘make him...’, ‘give him...’) the author frequently employs third person imperatives (‘let him drink...’, etc.). There is one example of this in *Physician* in chapter 2 where the author states, ‘Let him (i.e. instruct him to) not use (χρήσθω) bronze except for the instruments.’⁴⁴

If one discounts my arguments regarding (i) Ἱητροῦ μὲν εἶναι προστασίην, (ii) ὁρῆν ὅπως εὖχρως τε καὶ εὔσαρκος ἔσται, (iii) δεῖ δὲ τοῦτον σκοπέειν τάδε περὶ τὴν ψυχὴν σώφρονα μὴ μόνον τὸ σιγᾶν ἀλλὰ καὶ περὶ τὸν βίον πάνυ εὖτακτον, (iv) σκοποῦ δὲ ἐπὶ τῆς ἐξουσίης· τὰ γὰρ αὐτὰ παρὰ τοῖς αὐτοῖς σπανίως ἔχουσιν ἀγαπᾶται, (v) ἀπ’ ἀρχῆς συνοπτέον. ἀφ’ ὧν καὶ μανθάνειν ἄνθρωπος ἄρξαιτο, (vi) Τὰ δὲ προσφερόμενα ἅπαντα μὲν χρή συνορῆν ὅπως συνοίσει, (vii) συνορῆν ὅκως μηδὲ ἀσθενῇ λεληθὸς and if one believes that the exiguous nature of the information the author is imparting *is* appropriate for a student handbook, one could explain the dearth of second person forms by arguing that the author is using the third person (as other Hippocratic treatises do) to refer to the archetypal *iatros* to be emulated and is not assuming an intermediary between his text and the student. But that would make the one indisputable appearance of a second person verb form in the treatise, in chapter 7, difficult to account for.

Chapter 7 falls between the comments on sharp and broad scalpels in chapter 6 and the need to ligate the vessels in the arm in chapter 8. It deals with the use of the different types of cupping instrument. As

⁴¹ Hipp. *Medic.* 7 (9.214.6-7 L.)

⁴² Hipp. *Medic.* 7 (9.214.8 L.)

⁴³ Hipp. *Medic.* 14 (9.220.3-4 L.)

⁴⁴ Hipp. *Medic.* 2 (9.208.1 L.)

usual, most of the instructions are given in the impersonal formulation using *δεῖ* and *χρή*. The author states that a narrow mouthed cup is best for attracting body fluid which has collected far from the surface tissue (though true to form he does not say how one would recognize that this was the case), while if the pain is more widely dispersed a wide mouthed cupping instrument should be used. He then remarks, 'For thus you will find (*εὐρήσεις*) that it draws from the most parts to the place which is in pain, where it should be,'⁴⁵ and proceeds to expatiate on why this should be so in some technical detail. At the end of the technical material he returns to the rudimentary remarks, impersonal directives and third person references of the rest of the treatise, 'It is necessary to estimate what size of cupping instrument will be useful by reference to the parts of the body to which it is necessary to apply it. And when one scarifies, take it from below.'⁴⁶ Without the technical excursus chapter 7 would be about the same length as all the other chapters with the exception of the first two. As it is, it is twice the length of the other chapters. The most economical explanation of the length and intricacy of this chapter is that the author knows his remarks on wide-mouthed cupping vessels go beyond generally accepted usage and so finds it necessary to explain what he means to the experienced colleague he assumes will be reading the book.

If we read the treatise as written for a colleague of the author, an instructor seeking advice on the selection and early training of mature students, we can make sense not only of the anomalous nature of chapter 7 but also accept the mss. readings with minimal, if any, emendation to give coherent sense in at least seven textual cruces, restore the full meaning to words such as *σκοπέω* and *συνοπάω*, appreciate why the treatise opens with a description of how a doctor should look and act rather than a survey of the parts of the art of medicine, and understand the exiguous nature of the information contained in the chapters.

If this text is aimed at instructors, what does it tell us about medical education at the time it was written, likely in the second half of the fourth century or sometime in the third?⁴⁷ I have argued elsewhere that

⁴⁵ Hipp. *Medic.* 7 (9.212.16-17 L).

⁴⁶ Hipp. *Medic.* 7 (9.214.5-6 L).

⁴⁷ Arguing from stylistic criteria, Bense, followed by Jones and Potter, dates the treatise to the second half of the fourth century. Fleischer (1939) 56-57 argues for a third century date largely on the basis of Hellenistic word usage. However, he is also influenced by the fact that he sees *Physician* as an example of a type of post-Aristotelian protreptic literature, though he admits a rather exiguous example (55).

the agonistic nature of some treatises dating from the end of the fifth century (*Ancient Medicine, Nature of Man, Sacred Disease*) derived from a competition among traditional medical centers for students rather than patients.⁴⁸ If my interpretation of *Physician* is correct, it would seem that when it was written *opsimatheis* were seeking instruction not only at the traditional centers of medical education but also with the equivalent of their local GP. A *iatros* used to training up apprentices from childhood might well be stymied at how to begin the education of this class of students and would welcome a teaching aid such as *Physician*.

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⁴⁸ Dean-Jones (2003) 112-121.

Training Showmanship Rhetoric in Greek medical education of the fifth and fourth centuries BC

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Summary

In the fifth and fourth centuries BC, ancient Greek medical practitioners began to use persuasive rhetoric in their practice of medicine. This paper will explore two areas related to rhetoric and medical instruction in ancient Greece – first, the nature of rhetorical instruction given to – or at least expected of – aspiring physicians and second, the effect of rhetoric on the public authority of the physician, as illuminated by the contrasting image of the physician in the Platonic corpus.

The first section will examine the *Hippocratic Corpus* for basic elements of rhetoric with a view to the question: Did the increasing recognition of these techniques by the public actually harm the doctor's public image by creating 'the rhetoric of anti-rhetoric?' The second section focusing on Plato will serve as a contrast to the Hippocratic physician, since Plato purposefully avoids criticizing the medical use of rhetoric while strongly criticizing other uses of rhetoric.

Introduction

Many of the treatises of the *Hippocratic Corpus* clearly exhibit a strong Sophistic influence, implying that at least the writers of these works had some familiarity with rhetoric in addition to their medical training.¹ The importance of rhetoric in these medical treatises, however, raises an important question on the role of rhetoric in the education of the ancient physician. Clearly Antiquity's doctors needed competence in their medical abilities, but what was taught or expected of them in the

¹ Jouanna (1990), especially for the rhetorical features of *Ancient Medicine* (1999); Thomas (1993), Thomas (2000), especially chapters 6-8, and Thomas (2003); Lloyd (1979).

rhetorical art? Furthermore, did such an emphasis on rhetoric ultimately hinder or help ancient medicine?

For the first half of my discussion, I shall briefly discuss the relevance of the *Hippocratic Corpus* to ancient medical education and then focus on the treatises themselves for their references to and use of rhetoric. From this analysis, it will be clear that rhetoric in ancient medicine was primarily used in defense of one's medical theories, reputation, and art. Even when we see aggressive polemic in the treatises, the attack fits clearly into the overall defensive stance. Although rhetorical technique as such is never explicitly taught in the Hippocratic treatises, there is an emphasis on defending one's practice of medicine with persuasive speech and displays, which strongly suggests that some rhetorical abilities would have been expected of an ancient physician.

For the latter half, I shall explore how this new emphasis on rhetoric reflected the difficult position of medicine as a *technē* in Antiquity. For instance, many Hippocratic authors ostensibly criticize the use of rhetoric, while simultaneously expecting that the ancient physician would be fully able to use his rhetorical skills to display his competence. This 'rhetoric of anti-rhetoric' attempts to justify the art of medicine by criticizing persuasive displays, but by conceding the necessity for rhetoric in medicine, it acknowledges that medicine's artistic status was in serious doubt.² Similarly in the Platonic corpus, Plato underscores the questionable artistic status of medicine by glossing over its problems when using medicine as an analogy in his arguments. The importance given to rhetoric for defending the art of medicine ironically contributed to the very undermining of the art itself.

Medical education and the Hippocratic Corpus

During the latter half of the fifth century BC, the face of Greek medical education was changing dramatically as the sophists and written texts exerted their influence.³ As the first real professional teachers, Sophists made a living from teaching, but in order to gain pupils, they often demonstrated their skills in a public lecture known as an *epideixis*.⁴

² Hesk (2001) 202 ff.

³ Thomas (2003) 164 writes, 'If we are looking for steps in the growth of written texts and their perceived importance, much revolves around the late fifth-century sophists.'

⁴ Marrou (1956) 49. Thomas (2003) 173, 'The word *epideixis* literally means 'display,' but it came to denote a formal display piece, a showy lecture, as distinct from a speech

Furthermore, written texts were circulated to serve as guides or exemplars of the sophistic oral teachings.⁵ The sophistic creation of a professional teacher soon infiltrated medical education of the late fifth century BC as well. Before this time, Greek medicine was taught primarily within families and information was passed down orally from father to son.⁶ After the sophists, the teaching of medical practice extended beyond the confines of the family and entered into the public realm, where physicians 'from famous families or centers of medicine could expect to make a living simply by teaching medicine.'⁷ Simultaneously, there was an increase in the number of written texts on medical subjects, which coincides with the rise of sophistic written texts.⁸ For the sophistic treatises, it is clear that the relationship between the written text and the oral performance was very complex.

This complex relationship between written and oral extends into the medical writings as well.⁹ Some treatises seem designed for oral delivery such as an *epideixis* similar to the sophistic writings, while others present extensive collections of medical information which seem designed more for private study or reflection. In fact, many scholars have tried to divide the Hippocratic writings into various categories that reflect their purpose or their audience.¹⁰ Jouanna, for example, distinguishes between treatises intended solely for reading and others intended for oral delivery, and out of those for oral delivery, he further distinguishes between epideictic lectures for a lay audience and didactic lectures for a medical audience.¹¹ Furthermore, Dean-Jones has emphasized that the audience for these medical speeches is not necessarily prospective patients, but could also be prospective students or even teachers of medicine.¹² We also cannot exclude the possibility

given to the courts or assembly. Whatever private readings there were, the most popular method of conveying new theories and advertising skill was by some kind of oral exposition.' See also Demont (1993).

⁵ Kennedy (1959) 169; Lloyd (1979) 80; Marrou (1956) 53; Wilcox (1942). For example, models of lectures were written down and disseminated among pupils in order to be practiced and copied.

⁶ Jouanna (1999) 43 ff. and Dean-Jones (2003) 98-99.

⁷ Jouanna (1999) 46 ff; Dean-Jones (2003) 116. In fact, scholars believe that the famous Hippocratic *Oath* was meant primarily for pupils outside the family so that they would swear to keep safe their medical knowledge.

⁸ Thomas (2003); Dean-Jones (2003).

⁹ Thomas (1993) and (2003).

¹⁰ Schiefsky (2005) 40 note 87.

¹¹ Jouanna (1999) 80-82.

¹² Dean-Jones (2003).

that some works purported to be *epideixis* although they were fully intended for written circulation. Nevertheless, a full discussion on the purpose and audience of the particular treatises is beyond the scope of my discussion, since each treatise, whether written or spoken, contains medical knowledge which would presumably be learned by someone. In this sense, the entire collection contains a wide representation of medical teachings which serve some direct or indirect educational purpose often with rhetorical features.

Rhetoric in defense of medical theory

I shall now turn to the discussion and use of rhetoric in the treatises themselves in order to show that rhetoric was used in two important areas of the medical practice:

- 1) defending medical theories;
- 2) defending medicine as an art.

First of all, we find evidence of theoretical debates where practitioners argued with each other over their medical theories. In the treatise *Nature of Man*, the author notes that people often hear speakers argue in public debates, where given the same debaters and audience, the same man never wins three times in a row.¹³ Later the same author suggests that physicians themselves often argue in debate about the nature of man.¹⁴ The writer of *Ancient Medicine* also states that lecturers spoke on the medical arts and had an audience.¹⁵ In addition, medical writers frequently attack their opponents in the form of an *ad hominem* polemic to defend their theories.¹⁶ Thus, *Ancient Medicine* begins with a polemical attack on the author's opponents who use postulates as a basis for discussion. The same writer also polemically attacks philosophy since he believes that many other physicians and philosophers argue for a different medical theory based on natural science. In *Regimen in Acute Diseases*, we find a remarkably strong

¹³ Hipp. *Nat. Hom.* 1 (6.32-35 L.).

¹⁴ Hipp. *Nat. Hom.* 2 (6.34-37 L.).

¹⁵ Hipp. *VM* 1 (1.570-573 L.).

¹⁶ See Ducatillon (1977) for an excellent discussion of polemics. He categorizes four types of polemics: polemic against philosophy, polemic to defend against other medical theories/practitioners, polemic against irrational medicine and charlatans, and polemic to defend the art.

invective against the authors of a work known as *Cnidian Sentences* for their differing and supposedly incorrect medical views.¹⁷ The antagonism in these treatises points directly to the existence of live debates and strongly suggests that rhetorical skills would be necessary to defend the ancient physician's theories.

Many authors also employ rhetorical language in their treatises, which reflects a significant understanding or training in the rhetorical art. Although I shall not exhaustively cover every example of rhetoric found in the corpus, I shall now highlight some of the most common rhetorical techniques medical practitioners used. For example, Nava discusses the literary function of the role of the prologue in the ancient medical treatises.¹⁸ Nava points directly to the prologue's rhetorical functions to establish the basic argument of the entire treatise, to attack, often polemically, any possible opposing views, and to exhort his audience with direct address and first-person references.¹⁹ Jouanna presents a detailed list of rhetorical characteristics found in *Ancient Medicine, The Art and Breaths*, including the use of verbs meaning to 'speak,' the emphasis on the first-person verb and pronoun,²⁰ and direct questions for an implied audience.²¹ Specific language features of rhetoric are also present such as coupling of similar terms, antithesis, homoeoteleuton, and asyndeton.²² In her book *Herodotus in Context*, Thomas describes many of the rhetorical arguments and proofs of the Hippocratic writings. Thus, we find the authors of *Sacred Disease* and *Airs waters places* famously using a 'modus tollens' argument by claiming that if a disease were sacred, then it should attack everyone equally, but since it attacks only a specific group, then it cannot be sacred.²³ Analogies to both visible and invisible evidence, as forms of argument, also abound in the corpus such as in *Generation and Nature of the Child*, where the author makes analogies between the embryonic

¹⁷ Hipp. *Acut.* 1 (2.224-229 L.).

¹⁸ Nava (1992).

¹⁹ See also Thomas (2000), chapter 7 for an excellent discussion of the rhetorical use of polemic and the first-person in the Hippocratic writings.

²⁰ Laskaris (2002) cites 22 references to first-person use in the treatise *Sacred Disease*. The emphatic reference to the first-person also occurs throughout *Ancient Medicine*, both in the singular and the plural, to emphasize credibility of speaker and to establish a bond between speaker and audience. See Schiefsky (2005) 37 and Jouanna (1990). For the first-person use in the oath, see von Staden (1997) who argues that it represents the personal commitment to the art of medicine, both professionally and personally.

²¹ Jouanna (1990) 9-14; Schiefsky (2005) 37-38.

²² Jouanna (1990) 9-14 and Jouanna (1988).

²³ Thomas (2000) 177 ff.; *Morb. Sacr.* 2 (6.364-367 L.); *Aer.* 20-22 (2.76-83 L.).

membranes and beeswax and between a human embryo and a chicken's egg.²⁴ From these examples of the use of rhetoric in ancient medical writings, it is clear that ancient physicians were adept at using rhetorical techniques to defend their theories.

Rhetoric in defense of the art

In addition to defending their theories using rhetoric, we also find that the ancient medical authors were relentless in defending the art of medicine itself.²⁵ The reputation of the ancient physician was his livelihood and he rightly placed much importance on maintaining it. The treatise *Decorum* describes the proper dress, appearance, and demeanor in order to gain a strong reputation.²⁶ In addition, *Decorum* stresses that the physician must ensure that the entire situation and patient is under his control lest he should suffer some criticism of his reputation.²⁷ Furthermore, *Regimen in Acute Diseases* warns against erring while treating patients since this makes the physician 'a laughing-stock'.²⁸ In fact, the importance of reputation and avoiding mistakes touches upon the larger issue of establishing and defending the art of medicine itself. Because medicine could not always heal the sick, ancient physicians were particularly concerned with convincing the public that their art was based on sound knowledge. Thus, the authors of *Ancient Medicine*, *Regimen in Acute Diseases* and *The Art* strongly argue that their profession is an art, despite the variety of opinions and theories in circulation and despite its occasional failures and shortcomings.²⁹ For example, in *Regimen in Acute Diseases*, the author first states that laymen do not even consider medicine an art

²⁴ Thomas (2000) 208; *Nat. Puer.* 6 (7.478-479 L.) and 29 (7.530-531 L.).

²⁵ Dean-Jones (2003) has argued that the ancient public had no reason to be suspicious of ancient medicine and therefore the profession as such was not under attack. There were a minority who simply dismissed medicine altogether (and they also exist in the modern world of medicine), but the majority had no basis to doubt authenticity. I tend to disagree with her, however, based on the nature of the rhetoric described in the corpus which includes eristic debates as well as *epideixis*, implying that the doctor was a showman whose craft not only involved healing the sick, but also defending his actions through pomp and circumstance.

²⁶ Hipp. *Decent.* 3 (9.228-229 L.).

²⁷ Hipp. *Decent.* 14-18 (9.240-245 L.).

²⁸ Hipp. *Acut.* 11 (2.318-319 L.).

²⁹ Hipp. *VM* 9 (1.599-591 L.); *Acut.* 2-3 (2.230-245 L.), 11 (2.302-319 L.); *De Arte* 4-8 (6.6-15 L.).

because of the variety of medical opinions and if doctors should make a mistake in treating a patient because of their difference in opinion, the mistakes would especially be regarded with contempt by the public.³⁰ In conjunction with arguing against the shortcomings of medicine, medical authors also employ polemic to defend not only their medical theories as we discussed before, but also their art. The author of *Sacred Disease* displays an aggressive polemic against practitioners of other medical arts by calling them ‘magicians, purifiers, charlatans, and quacks.’³¹ *The Art* decries those who criticize the arts and ‘make a display of their own knowledge.’³² The aggressively defensive stance of the medical art against other arts and attacks reflects the same emphasis on rhetoric as we have seen with medicine’s defense of medical theories.

Taken together, the *Hippocratic Corpus* therefore presents a unique picture of the importance of rhetoric in ancient medicine. Ancient physicians had to use rhetoric in the public displays and debates in order to defend their theories, their reputation, and the art of medicine. Furthermore, from the implicit use of rhetoric in many of the medical treatises, it is clear that at the very least, certain physicians were quite facile with rhetorical techniques. It is important to note, however, that these treatises give no explicit instruction in rhetorical techniques for the aspiring ancient physician to use himself. Nevertheless, they do create the expectation of a well-mannered physician who has persuasive abilities. Someone might argue that the treatises themselves serve as models from which students could learn techniques of rhetoric, but these treatises are not the rhetorical handbooks of the sophists. According to Thomas, this is oratory which ‘uses rhetorical skills to promote or debate philosophical or medical issues.’³³ A critic might also suggest that the instruction in Hippocratic prognosis is in fact rhetorical instruction since often ancient physicians used prognosis in defense of their reputation, as we find in the treatise *Prognostic*.³⁴ Ancient physicians used prognosis to give a rational account of the

³⁰ Hipp. *Acut.* 2-3 (2.230-245 L.), 11 (2.302-319 L.).

³¹ Hipp. *Morb. Sacr.* 1 (6.354-355 L.).

³² Hipp. *De Arte* 1 (6.2-3 L.). There is much debate over the authorship of this work and the work, *Breaths*, since both are believed to be written by sophists as opposed to medical writers, but I tend to agree with Jouanna (1984) and Thomas (1993) who argue that these works could conceivably represent medical epideictic oratory delivered by actual medical practitioners.

³³ Thomas (1993) 234.

³⁴ Hipp. *Prog.* 1 (2.110-113 L.).

disease which displayed their knowledge and foretold the future course of sickness. By giving words – *logon dounai* – to his patient, the ancient physician exploits what Cole regards as the duality of the word *logos* itself, which can refer not only to ‘reason’ or ‘reasoning,’ but also to ‘speech.’³⁵ Although Hippocratic prognosis had this element of speaking and persuading the patient to undertake a course of treatment, in its strictest sense prognosis is not rhetorical speech, but is rather the articulation of medical knowledge which is embodied in the ancient conception of *logos*. Therefore, we do find references to occasions where rhetoric was necessary, where authors use rhetoric in the treatises themselves, and where treatises indirectly instruct rhetoric through the training of prognosis, but there is no direct, formal rhetorical instruction. This is not incompatible with the fact that most educated men would have already garnered experience in rhetoric by the time they began their medical instruction, particularly in a society that values citizenship and the public assembly.³⁶ Perhaps when medicine was passed down in families from generation to generation, part of the early training would involve general education related to rhetoric, but as the realm of medical education left the sphere of individual families, rhetoric was not explicitly taught to doctors in training.

Criticism of rhetoric in the Hippocratic Corpus

As the importance of rhetoric grew in ancient medical practice, we also find a strand of criticism against rhetoric in the *Hippocratic Corpus* itself, which further underscores the fact that rhetoric was assumed, not taught. Here, the authors ostensibly criticize rhetoric, but implicitly expect and almost endorse the use of rhetoric in ancient medicine. For example, the treatise *Precepts* constantly levels criticism against the importance physicians’ place on their public rhetoric and states, ‘if for the sake of a crowded audience you wish to hold a lecture, your ambition is no laudable one, and at least avoid all citations from the poets.’³⁷ Theoretically, the author is against epideictic displays of medical knowledge, but at the same time, he expects them to happen when he gives his advice for avoiding the citation of poets. Similarly,

³⁵ Cole (1991) 98.

³⁶ Marrou (1956) and Dean-Jones (2003).

³⁷ Hipp. *Praec.* 12 (9.266-267 L.).

the same author argues that the physician should theoretically feel free to consult other physicians and even laymen in order to help the patient, but he also recognizes that physicians will quarrel and jeer because of their concern for their reputation.³⁸ He continues his instruction on presentation and reputation by saying that elaborate decoration in dress will gain only ill-repute, but at the same time, it is important to please potential patients.³⁹ This aligns rhetorical displays with other forms of the spectacular, where authors outwardly show distrust, but also support the usefulness of such displays. In *Articulations*, the author criticizes succussions on a ladder to treat a hump-back since this practice is intended to ‘make the vulgar herd gape, for to such it seems marvelous to see a man suspended or shaken or treated in such ways.’⁴⁰ Simultaneously, however, he not only describes the process thoroughly but also later claims that it is the only possible treatment in a situation where the vertebrae curve inwards.⁴¹ In the case of prognosis, the author of *Prorrhetic 2* argues against spectacular prognostications, but similarly condones a little extra rhetorical persuasion if they are based on sound medical knowledge.⁴² These authors taught an ideal of medicine where rhetoric and public display were criticized, but they also recognized and even expected practitioners to defend their art and reputation. Their ‘rhetoric of anti-rhetoric’ highlights the ancient physician’s very need for rhetoric and persuasion in order to practice his craft.⁴³

Plato and Hippocratic rhetoric

This combination of suspicions of rhetoric with high rhetorical skill reminds us of Cicero’s famous quotation on Plato: *in oratoribus irridendis ipse esse orator summus videbatur*, ‘in criticizing orators, he himself seems to be the highest orator.’⁴⁴ In the Platonic corpus, we find a similar ‘rhetoric of anti-rhetoric,’ where Plato himself uses rhetoric to argue against the sophists and orators of his day.⁴⁵ An

³⁸ Hipp. *Praec.* 2 (9.252-255 L.) and 9 (9.264-267 L.).

³⁹ Hipp. *Praec.* 10 (9.266-267 L.).

⁴⁰ Hipp. *Art.* 42 (4.182-185 L.).

⁴¹ Hipp. *Art.* 44 (4.184-191 L.) and 48 (4.212-217 L.).

⁴² Jouanna (1999) 100-111.

⁴³ Hesk (2000).

⁴⁴ Cic. *de Orat.* 1.11

⁴⁵ Hesk (2000).

important part of Plato's arguments against rhetoricians is his invocation of medicine 'as the paradigm *technē* to provide an analogy for true statesmanship and philosophy.'⁴⁶ According to Heinimann, the ancient conception of *technē* required four important points:

- 1) the art must be beneficial and in the case where it is harmful, it must be justified;
- 2) the art must have its fixed task and power;
- 3) the art must be based on knowledge, which an expert knows and uses for the purpose of the art; and
- 4) the art must be teachable and communicable, which recalls the duality of *logos* as both reasoning and speech.⁴⁷

Plato idealizes medicine as a true *technē* by arguing for all four points. Plato argues that medicine provides health as a benefit and has a specific task and power to heal the sick.⁴⁸ Furthermore, Plato argues medicine has a particular set of knowledge which its practitioners must master and which separates doctors from simple laymen.⁴⁹ Plato claims that medicine should be teachable and communicable to others, as we see in Plato's *Protagoras* where Socrates points out to a young Hippocrates that he can learn medicine from Hippocrates the physician, but he cannot name or quantify what he would learn from Protagoras, the sophist.⁵⁰ This knowledge in medicine, however, is not a set of rules or recipes from which anyone can practice the medical art. It also requires inquiry and investigation into the nature of the patient – a point he strongly makes in the differences between the free doctors and slave doctors mentioned in the *Laws*.⁵¹ He goes beyond simply portraying medicine as a *technē*, but idealizes it as an even higher form of *technē*

⁴⁶ Dean-Jones (2003) 104; Pl. *Grg.* 463.

⁴⁷ Heinimann (1961) 105-106.

⁴⁸ See for example, Pl. *Euthd.* 291e, *La.* 195c, *Cra.* 416d, and *Lg.* 961e-962a for examples of health as the product of the *technē* of medicine. See *Ly.* 217a-b, *Grg.* 478a, and *R.* 332d-e, for examples of healing the sick as the purpose of medicine.

⁴⁹ Pl. *La.* 198d-198e, *Lg.* 902d, *Ion* 537c describe medical knowledge as part of the *technē*.

⁵⁰ The idea of communicability of a *technē* sits closely with the fact that the Greek word, λόγος, refers to both reason and speech, which integrates the idea that knowledge can be spoken as well. See *Prt.* 311b-312e and later at *Prt.* 319a-c, where Socrates argues that the state will seek advice from those craftsmen in the arts that are learnable and teachable. *Men.* 90a-92a also describes the fact that medicine is communicable.

⁵¹ Pl. *Lg.* 720b and 857c-d.

than many others, by claiming that it controls other *technai* in order to bring the best for the body.⁵²

While establishing medicine as a model of an idealized *technē*, Plato purposefully avoids portraying any critical aspects of medicine. For example, in the famous passage where Gorgias persuades a patient using rhetoric while his brother the doctor could not persuade him, Plato is blatantly overlooking the fact given in the *Hippocratic Corpus* that ancient medical practitioners were acutely aware of their reputation and would have used some rhetorical ability to convince their patients.⁵³ Furthermore in the *Laws*, Plato claims that if an orator and a doctor were to speak before an assembly to become a physician, the orator would easily win since the doctor would have no rhetorical abilities of persuasion. That Plato so completely avoids presenting any of the significant problems of medicine as a *technē* is remarkable when placed in the context of the Hippocratic authors. Although the Hippocratics offer many arguments and justifications similar to Platonic arguments for the *technē* of medicine, they nevertheless acknowledge many of its difficulties, especially in the extent and unanimity of its knowledge.

These two different portrayals of medicine – the first providing a rhetoric of realism and the second providing a rhetoric of idealism – reflect the strain and doubt placed on the very artistic status of medicine itself. One of the key requirements of *technē* in the ancient world is having its own body of knowledge which can not only be transmitted through teaching, but which will give the expert of that knowledge the ability to provide a particular result.⁵⁴ According to Allen, if someone can pick up the basics of an art from experience and apply them in a few stereotypical situations, it does not constitute a true art.⁵⁵ More importantly, the ancient conception of *technē* required that this artistic knowledge be complete and required the practitioner to be invariably successful. Unfortunately, medicine, which often fails to achieve its result of healing the sick, cannot be invariably successful and does not, even today, have a full understanding of disease. Allen refers to medicine along with rhetoric, as ‘stochastic’ arts which cannot guarantee that level of invariability.⁵⁶ Allen continues by saying, ‘Consequently, disputes about the artistic status of practices like

⁵² Pl. *Grg.* 517d-518a.

⁵³ Pl. *Grg.* 456b.

⁵⁴ Allen (1994) 81 ff. and Heinimann (1961).

⁵⁵ Allen (1994) 83-84.

⁵⁶ Allen (1994).

rhetoric and medicine frequently became controversies about how the requirement that an art involve a complete and systematic body of knowledge should be understood.⁵⁷

In order to cope with the doubtful artistic status of medicine, the Hippocratic writers and Plato take two different approaches based on their own rhetorical needs. Plato needs an idealized *technē* as part of his rhetoric of anti-rhetoric and by glossing over the problems of stochastic accuracy and the weakness of medicine as an analogy, Plato can use the ideal *technē* of medicine while systematically attacking the problems of stochastic accuracy in rhetoric. The Hippocratics, on the other hand, could not plausibly gloss over the problems of stochastic accuracy of medicine since it was the very subject of their discourse. They did not dare use the same rhetorical ploy as Plato, but instead chose to acknowledge the many difficulties of medical knowledge, especially in its extent and unanimity. The rhetoric of the Hippocratics, which displayed the lively agonistic culture of medicine and used rhetoric to fight criticisms of its art and its medical theories, ultimately highlighted the very weakness of its claim to be a true art. According to Allen, in conceding that medicine could not achieve everything or does not have complete knowledge, the profession of medicine paid the price of accepting an inferior status.⁵⁸ Thus, the idealization of medicine found in the Platonic corpus serves as a particularly useful contrast to the more realistic descriptions in the Hippocratic writings. Nevertheless, both portrayals of medicine reflect rhetorical efforts to fight the growing question on the very status of medicine as a *technē*. The emphasis of rhetoric in medicine further highlighted the artistic problems that would pave the way for the future rift between the Rationalists and the Empiricists. What we recognize in the *Hippocratic Corpus* as the defense and peak of rational medicine also displays the very characteristics that would ultimately lead to its divide.

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The Importance of Having Medical Knowledge as a Layman

The Hippocratic treatise *Affections* in the context of the *Hippocratic Corpus*

Pilar Pérez Cañizares

Θουκυδίδης μὲν γὰρ τὰ συμβάντα τοῖς νοσοῦσιν ὡς ἰδιώτης
ἰδιώταις ἔγραψεν, Ἱπποκράτης δὲ τεχνίτης τεχνίταις.
Galen, *De diff. resp.* 2.7 (7.854 K.)

Summary

The aim of this paper is to explore various aspects regarding the Hippocratic treatise *Affections*, mainly its relationships to other Hippocratic treatises concerning genre and the ideology of the author, with the aim of placing this work within its scientific and sociocultural context.

In the quotation above, we can see how Galen distinguished between works meant for and written by specialists, and writings for lay people written by non-specialists. In this sense, Galen conceives the difference between Thucydides' description of the epidemic of plague in Athens and Hippocrates' accounts of diseases in the books of *Epidemics* as a clear disparity of textual genre. This division between technical and non-technical literature, with clear and insurmountable boundaries, has undoubtedly influenced many modern interpretations concerning the readers of these writings and their capacity or not to understand scientific texts.

The Hippocratic treatise *Affections*¹ can be incorporated to complement this duality concerning both author and targeted public, as

¹ *Affections* (*De affectionibus*, περὶ παθῶν) is a nosological work of about 60 pages of Greek text (in the Littré-numeration), which already in Antiquity was transmitted as a part of the *Hippocratic Corpus*.

it is the work of a medical specialist whose aim is to transmit the medical knowledge every intelligent layman should possess. In this sense, *Affections* is unique among the Hippocratic writings in that it presents itself as a manual for lay people and not for physicians. It provides therefore essential information on what knowledge and skills the educated layman in Ancient Greece was expected to possess in the management of health and it is mainly this aspect that will be examined here. The writing includes a systematic discussion of diseases and their treatment. It then deals with a number of dietetic modes of treatment (foods, drinks, baths etc.) applied to a variety of diseases. It also refers several times to a discussion of drug treatment and drug preparation, and ideological statements are placed among the description of diseases.

My aim here is to focus on this distinctive attitude of the author of *Affections*, as far as his consideration of the intellectual capacities of his readers are concerned. I shall do this by means of a selection and close examination of some passages of the tract and their differences and affinities to other Hippocratic authors' positions.

As I have already mentioned, *Affections* is the only work of the *Hippocratic Corpus* that is explicitly intended for lay readers rather than for specialists, as the author states at the very beginning.²

ἄνδρα χρή, ὅστις ἐστὶ συνετός, λογισάμενον ὅτι τοῖσιν ἀνθρώποισι πλείστου ἄξιόν ἐστιν ἢ ὑγιείῃ, ἐπίστασθαι ἀπὸ τῆς ἑωυτοῦ γνώμης ἐν τῇσι νούσοισιν ὠφελέεσθαι· ἐπίστασθαι δὲ τὰ ὑπὸ τῶν ἰητρῶν καὶ λεγόμενα καὶ προσφερόμενα πρὸς τὸ σῶμα ἑαυτοῦ καὶ διαγινώσκειν· ἐπίστασθαι δὲ τούτων ἕκαστα ἐς ὅσον εἰκὸς ἰδιώτην.

Any man who is intelligent must, on considering that health is of the utmost value to human beings, have the personal understanding necessary to help himself in diseases, and be able to understand and to judge what physicians say and what they administer to his body, being versed in each of these matters to a degree reasonable for a layman. Hipp. *Aff.* 1 (5,6 Potter; 6.208 L.).

Nevertheless some early scholarship³ considered the last part of the Hippocratic treatise *Nature of Man*, edited separately by Littré under the name of *Regimen in Health*, to be another example of this genre of medical works, as its dietetic advice is directed first of all to lay people.

² In this paper I have made use of the texts and translations of the Loeb Classical Library by Potter and Jones.

³ See for instance the only modern commentary of *Affections* by Wittenzellner (1969).

Affections and this part of *Nature of Man*, then considered as an independent work, have been related to each other probably because both of them were devoted to dietetics. Nevertheless, a more detailed examination of some passages in both texts reveals that they have been linked to each other above all because of their use of the word *ιδιώτης*, as they are among the few works of the *Hippocratic Corpus* where this word appears.⁴ But unlike the passage in *Affections* quoted above, in *Nature of Man* *ιδιώτης* does not mean layman, as opposed to somebody with a specialised knowledge in medicine, it means ‘those leading a normal life’ as opposed to athletes.⁵ This use of the word is by no means uncommon, and we can find a similar example also in *Affections*, in chapter 52, where the qualities of different types of meat are discussed:

τὰ δὲ ὕγια ἐξ εὐεξίην μὲν καὶ ἰσχύν πονοῦσι καὶ γυμναζομένοις ἀγαθὰ,
ἀσθενέουσι δὲ καὶ ἰδιώτησιν ἰσχυρότερα.

Pork is good for creating top condition and strength in labourers and athletes, but too strong for the sick or even normal person. Hipp. *Aff.* 52 (5,80 Potter; 6.262 L.).

Moreover we cannot say that the author of *Nature of Man* is addressing his series of advice for preserving health directly to the groups involved (starting with ‘normal people’, and then women, children, athletes), but rather to an audience that could include medical practitioners as well as laymen. In any case the text is not addressing laymen specifically as *Affections* is.

The word *ιδιώτης* always gets its concrete meaning as a negative term opposed to another one whose content is well defined, for it indicates somebody lacking particular knowledge or abilities. Thus, as opposed to *ἱητρός* in the first chapter of *Affections*, it means ‘one who is not a physician’, ‘someone with no medical knowledge’, while in *The Nature of Man* it is used in opposition to *γυμναζόμενος* and means ‘people who do not practise sports’ or ‘non-athletes’. The fact that

⁴ See Kühn & Fleischer (1986-1989, s.v.) where apart from *Affections* and *Nature of Man*, examples in *Ancient Medicine*, *Regimen in Acute Diseases*, *The Art*, *Breaths*, *Regimen*, *Decorum*, *Precepts* and *Letters* are listed.

⁵ Hipp. *Nat. Hom.* 16 (*Salubr.* 1) (204 Jouanna; 4,44 Jones; 6.72 L.) τοὺς ἰδιώτας ὧδε χρὴ διατᾶσθαι: ‘The layman ought to order his regimen in the following way.’ *Nat. Hom.* 22 (*Salubr.* 7) (216 Jouanna; 4,54 Jones; 6.82 L.) τοὺς γυμναζομένους χρὴ τοῦ χειμῶνος καὶ τρέχειν, καὶ παλαίειν... ‘Athletes in training should in winter both run and wrestle...’

ιδιώτης is not at all a very specific term but one whose meaning is difficult to define precisely was already noticed by Galen in his commentary to *Regimen in Health*.⁶

Different types of relationships between *Affections* and *Nature of Man* have been established since ancient times. Apart from the similarity of genre we have just referred to, we can also mention the attribution of *Affections* to the physician Polybus, author of *Nature of Man*.⁷ The origin of this attribution is to be found in Galen, who, referring to *Affections*, says once that the book is not worthy of Hippocrates,⁸ but elsewhere he mentions both Hippocrates and Polybus as possible authors.⁹ In fact there is a gloss in the *Marcianus* gr. 269, (tenth century), the most ancient manuscript in which *Affections* is preserved, saying: 'Galen says that this book is by Polybus'. The gloss of the *Marcianus* was also copied into the majority of its descendant manuscripts, such as for instance the *Parisini* gr. 2140, 2141, 2143, 2144, 2145, 2255 or the beautiful *Vossianus* gr. F 10, preserved in the Leiden University Library.¹⁰

Since these manuscripts are the ones normally used to prepare the Renaissance editions of Hippocrates, the attribution of this treatise to Polybus was still common in the sixteenth century, when the physician and Basel professor Alban Thorer prepared a Latin translation of the treatise *Affections* and published it under the name of Polybus.¹¹ In this printed edition the works *Affections* and *Internal Affections* are presented as two parts of the same treatise. The other two works published by Thorer under the name of Polybus in this volume were *Regimen in Health* and *Generation*. This is the only early printed

⁶ Galen, *In Hipp. Nat. Hom. comment.* 3.1 (89 Mewaldt; 15.175.10 K.) <Τοὺς ιδιώτας ὧδε χρὴ διαιτᾶσθαι.> Τίνας <ιδιώτας> λέγει, παραλελοίπασιν οἱ ἐξηγησάμενοι τὸ βιβλίον, οἷς γε δὴ παρέτυχον ὑπομνήμασιν· οὐ μὴν οὐδ' ἐπεζήτησά ποτε κατὰ τὴν παρὰ τοῖς <διδασκάλοις> ἀνάγνωσιν τοῦ βιβλίου.

⁷ The attribution of *Affections* to Polybus seems unanimously rejected. See Grensemann (1968) and Jouanna (1969).

⁸ Galen, *In Hipp. Acut. comment.* 2.38 (198, 3-5 Helmreich; 15.587.4 K.) ὡς σύγραμμα οὐκ ἔστιν ἄξιον τῆς Ἱπποκράτους δυνάμεως. Passage quoted by Anastassiou & Irmer (1997, 51).

⁹ Galen, *In Hipp. Aph. comment.* 1 (52 Anastassiou & Irmer; 18a.8.4 K.) ἐν μὲν γὰρ τῷ Περὶ παθῶν Ἱπποκράτους, εἴτ' οὖν αὐτοῦ τοῦ Ἱπποκράτους ἔστι τὸ βιβλίον εἴτε Πολύβου τοῦ μαθητοῦ αὐτοῦ, ταυτὶ γέγραπται περὶ λειεντερίας.

¹⁰ The glosse does not appear, for instance, in the *Parisinus* gr. 2148.

¹¹ *Opuscula aliquot nunc primum e graeco in latinum conversa... De morbis sive affectibus corporis, Libri II, Albano Torino Vitodurano interprete...*, Basileae, per Joannem Oporinum, 1544, 31-92.

edition of *Affections*, if we exclude the collections of Hippocrates' *Opera Omnia*.

Another question that links *Affections* and *Nature of Man* is one that deals exclusively with their transmission, namely the fact that the extant manuscripts of *Nature of Man* add at the end of the text the beginning of *Affections* and that of *Diseases* 2 chapter 12 (*Diseases* 2.2).¹²

Returning to the question of the intended readership of *Affections*, as already noted above, the text presents itself as a manual for the lay person (ιδιώτης). However, this 'popular' status has been disputed in scholarship¹³ in view of the high degree of 'technical' detail the work contains. Even if *Affections* seems to be the only example of this medical genre in the *Hippocratic Corpus*, it is interesting to examine in this sense the intentions of another Hippocratic author, the person who wrote the tract *Ancient Medicine*, and what he considers to be his targeted public. *Ancient Medicine* is a text in which non-specialists confront medical expertise, and this is explicitly stressed by the range of expressions for laymen and experts its author uses.¹⁴

The audience of this discourse was surely composed not only of specialists, but also of laymen, as one of the main lines of thought of this book is the importance of explaining to patients the diseases they suffer from; they will not be able to find out anything for themselves, but they will understand diseases if the practitioner explains them:

Μάλιστα δέ μοι δοκεῖ περὶ ταύτης δεῖν λέγοντα τῆς τέχνης γνωστὰ λέγειν τοῖσι δημότησιν· οὐ γὰρ περὶ ἄλλων τινῶν οὔτε ζητεῖν οὔτε λέγειν προσήκει ἢ περὶ τῶν παθημάτων ὧν αὐτοὶ οὔτοι νοσέουσιν τε καὶ

¹² See Jouanna (1975) 23; 309. This fact is evidence of an ancient order of the treatises in the *Hippocratic Corpus*, in which *Affections* followed *Nature of Man* in the manuscript tradition and not *Diseases* 4 or *Internal Affections* as is attested in the oldest manuscripts. Grensemann (1968, 9) considers this as the origin of the attribution to Polybus of *Internal Affections*.

¹³ See Potter (1988, 4-5) who thinks that all the medical indications described by the author must be addressed to practitioners, as they are as technical as the ones in other Hippocratic treatises, generally meant to be used by physicians, and Wittern (1998, 31-32), who suggests that the author wanted to transmit medical knowledge among non-specialist and he reused a preexisting tract with no significant changes. This view has been rejected by van der Eijk (1997, 86-88).

¹⁴ Together with *Regimen in Acute Diseases* it is the only Hippocratic writing where both ιδιώτης and δημότης occur. Also significant is the use of ἱητρός, χειροτέχνης and τεχνίτης. There is also one occurrence of ἐπιστήμων with genitive and two of σοφιστής. *Ancient Medicine* is the only Hippocratic treatise where these two words are used. See Kühn & Fleischer (1986-1989: s. v.).

πονέουσιν. Αὐτοὺς μὲν οὖν τὰ σφέων αὐτῶν παθήματα καταμαθεῖν, ὥς τε γίνεται καὶ παύεται καὶ δι' οἷας προφάσις αὖξεται τε καὶ φθίνει, δημότας ἐόντας οὐ ῥηϊδίον, ὑπ' ἄλλου δὲ εὐρημένα καὶ λεγόμενα εὐπετές· οὐδὲν γὰρ ἔτερον ἢ ἀναμιμνήσκειται ἕκαστος ἀκούων τῶν ἐωυτῷ συμβαινόντων. Εἰ δέ τις τῆς τῶν ιδιωτέων γνώμης ἀποτεύζεται καὶ μὴ διαθήσει τοὺς ἀκούοντας οὕτως, τοῦ ἐόντος ἀποτεύζεται.

But it is particularly necessary, in my opinion, for one who discusses this art to discuss things familiar to ordinary folk. For the subject of inquiry and discussion is simply and solely the sufferings of these same ordinary folk when they are sick or in pain. Now to learn by themselves how their own sufferings come about and cease, and the reasons why they get worse or better, is not an easy task for ordinary folk; but when these things have been discovered and are set forth by another, it is simple. For merely an effort of memory is required of each man when he listens to a statement of his experiences. But if you miss being understood by laymen, and fail to put your hearers in this condition, you will miss reality. Hipp. *VM* 2 (II,1 120,3 Jouanna; 1,14 Jones; 1.572 L.).

The writers of *Ancient Medicine* and *Affections* are in agreement concerning the popularisation of medicine,¹⁵ even if the author of *Affections* seems to be more optimistic regarding the intellectual capacities of laymen. There is no reason why, if not everyone, at least certain educated and intelligent laymen –as the author of *Affections* puts it– should not be capable of understanding the therapeutic instructions for maintaining their own health. The author of *Affections* stresses the layman's ability to learn particular medical themes. For him medicine is a field in which not only specialists are actively involved.

But in *Affections* laymen play a role not only as an audience, as they do in *Ancient Medicine*; they are also active patients who judge the physician's diagnosis and treatment and even more, they act as empirical discoverers of the effects of drugs. As the writer of *Affections* conceives it, medicine is certainly an art, but chance plays an important role in the discovery of drugs, and anyone, specialist or not, may get to know something useful:

¹⁵ See Jouanna (1990, 15), points out the use of the first person plural to refer to both the author and his public, as well as his mentioning cases and facts where both physicians and laymen are equally included. M. Schiefsky (2005), 42 ff. in his recent commentary of *Ancient Medicine* stresses that this writing could not be meant only for specialists, as one of its principal aims is to make it possible for lay people to distinguish between good and bad practitioners.

Τὰ φάρμακα, ὅσα ποτὰ καὶ ὅσα πρὸς τὰ τραύματα τροφοέρεται, μανθάνειν ἄξιον παρὰ παντός· οὐ γὰρ ἀπὸ γνώμης ταῦτα εὐρίσκουσιν οἱ ἄνθρωποι, ἀλλὰ μᾶλλον ἀπὸ τύχης, οὐδέ τι οἱ χειροτέχνη μᾶλλον ἢ οἱ ἰδιῶται. ὅσα δὲ ἐν τῇ τέχνῃ τῇ ἱητρικῇ γνώμῃ εὐρίσκεται, ἥπερ σίτων ἢ φαρμάκων, παρὰ τῶν οἴων τε διαγινώσκειν τὰ ἐν τῇ τέχνῃ μανθάνειν χρή, ἢ τι θέλης μανθάνειν.

About medications that are drunk or applied to wounds it is worth learning from everyone; for people do not discover these by reasoning but by chance, and experts no more than laymen. But whatever is discovered in medicine by reasoning, whether about foods or about medications, you must learn from those that have discernment in the art, if you wish to learn anything. Hipp. *Aff.* 45 (5,68 Potter; 6.254 L.).

However, even if laymen are capable of acquiring some therapeutic knowledge by themselves, the boundaries between specialised and lay knowledge are clearly set by the author. In other areas of medicine based not on chance (τύχη) but on reasoning (γνώμη), discoveries can only be made by experts and it is only from them that one can learn.¹⁶ Learning is stressed also at the very beginning of the treatise¹⁷ and its importance illustrates the position of the author of *Affections* regarding the degree to which medical science should be popularised.

The author of *Affections* shows high confidence in the intellectual capacities of laymen, but other Hippocratic authors by no means share his opinion. Lets take an example from *Regimen in Acute Diseases*:

οἱ μὲν οὖν ἰδιῶται οὐ κάρτα γινώσκουσιν τοὺς ἐς ταῦτα διαφέροντας τῶν πέλας ἑτεροίων τε μᾶλλον ἐπαινέται ἡμάτων καὶ ψέκται εἰσίν· ἐπεὶ τοι μέγα σημήϊον τόδε, ὅτι οἱ δημόται ἀσυνετώτατοι αὐτοὶ ἐωυτῶν περὶ τούτων τῶν νοσημάτων εἰσίν, ὥς μελετητέα ἐστί.

Now laymen do not accurately distinguish those who are excellent in this respect (sc. in treating acute diseases) from their fellows, but rather praise or blame strange remedies. For in very truth there is strong evidence that ordinary folk show their most stupid side. Hipp. *Acut.* 2 (6,2,38 Joly; 2,66 Jones; 6.234 L.).

¹⁶ The role of luck (τύχη) in the constitution of the medical art was a frequent subject of intellectual and professional debate. In other treatises luck has no place at all in the discovery and application of medicine. Cf. among others Hipp. *Loc. Hom.* 46 (6.342 L.), *VM* 1 (1.570 L.) and *De Arte* 4 (6.6 L.). Discussions on this topic can be found in Jouanna (1988, 187), Craik (1998, 216) and very extensively in Schiefsky (2005, passim); on discovery in *Affections* see Wenskus (1996).

¹⁷ Cf. *Aff.* 1 (5,6 Potter; 6.208 L.).

Here we can see that the author criticises people's inability to distinguish between a good and a bad physician; the worries of this author, though, are much more represented by bad physicians than by laymen. In fact, the author of *Affections* mentions in chapter 33 that medical knowledge will help laymen to preserve their health. By avoiding situations involving minor risk, one will succeed in preventing serious and chronic diseases.¹⁸ This seems to be the most immediate justification for acquiring medical knowledge. But a solid medical knowledge would allow laymen to recognise a good physician as well, and situations like the one described by the author of *Regimen in Acute Diseases* would not be that frequent. In Ancient Greece town physicians were appointed by local councils that were composed entirely by laymen.¹⁹ Therefore good physicians should have been interested in laymen being able to judge their professional activities on the basis of a well-founded opinion.

Guidelines to assess the competence of doctors are also given in *Affections*. In chapter 13, after stating that acute diseases are the most dangerous and painful ones, the author mentions the possibility that the patient may die, even though the physician has provided the right treatment.

καὶ ἢν μὲν, ὀρθῶς θεραπεύοντος τοῦ ἱητροῦ, ὑπὸ μεγέθους τῆς νόσου κρατέηται ὁ κάμνων, οὐχὶ τοῦ ἱητροῦ αὕτη ἡ ἀμαρτία ἐστίν. ἐὰν δὲ μὴ θεραπεύοντος ὀρθῶς ἢ μὴ γινώσκοντος ὑπὸ τῆς νόσου κρατέηται, τοῦ ἱητροῦ.

If when the physician treats correctly, the patient is overcome by the magnitude of his disease, this is not the physician's fault. But if, when the physician treats either incorrectly or out of ignorance, the patient is overcome, it is his fault. Hipp. *Aff.* 13 (5,22 Potter; 6.220 L.).

This passage appears in the middle of a longer discussion about types of fevers and comes to complete the aim the author states at the beginning of the treatise: patients and laymen in general should have a particular degree of medical knowledge so as to judge with certainty the abilities of physicians. In *Affections* bad medical practitioners are

¹⁸ Hipp. *Aff.* 33 (5,56 Potter; 6.244 L.) ταῦτα ἐπιστάμενος, ἀνὴρ ιδιώτης οὐκ ἂν ὁμοίως ἐμπύτοι εἰς ἀνήκεστα νοσήματα, ἃ εἴωθεν ἀπὸ μικρῶν προφασίων μεγάλα καὶ πολυχρόνια γίνεσθαι. 'Through understanding these things, a layman will be less likely to fall into incurable diseases that tend, from minor provocations, to become serious and chronic.'

¹⁹ See Nutton (1985) 26 ff., (2004) *passim* and Jouanna (1999) 75 ff.

not directly mentioned, but the author presents his readers with a situation of extreme difficulty. The death of a patient does not mean automatically a failure of the doctor and a man of learning should be able to notice whether the cause of the death was the result of the incompetence of the practitioner or not.²⁰

Following the line of thought of the treatise just described, anyone may make new discoveries regarding the use of particular types of medication and in some cases it may be worth learning from anyone. The situation that the author of *Affections* describes is one in which medical knowledge, its interchange and transmission, is not restricted to a circle of physicians.²¹ In another passage it is said that the effects of some foodstuffs are evident and as said previously, drinks as medications that work may be discovered by chance. So, for instance, in the case of a patient who does not tolerate wine, chapter 40 refers to an alternative drink as a remedy.²² What this and some other medications consisted of is not known to us, as they were described in a lost recipe collection called *Remedies*. Following the references in *Affections*, this work must have dealt with the preparations of drugs, their properties and their posology, as well as the diet to be followed in particular diseases. The treatise *Remedies* is mentioned explicitly a total of ten times²³ in the nosological part of *Affections* and as far as we can reconstruct it from these references, it contained among others, descriptions of gargarisms and of drugs to relieve pain in general or in specific diseases; also remedies to stop fever and indications on how to administer them, together with the diet to follow in the case of particular diseases. In some other passages of *Affections* we find references of the type: ‘use the diuretic medication described’, although

²⁰ It is further interesting to notice that this text immediately follows a sentence that echoes the famous text in *Epidemics* 1 ‘To help or at least to do no harm’. Cf. *Epid.* 1.11 (1,164 Jones; 2.634 L.) ἀσκεῖν περὶ τὰ νοσήματα δύο, ὠφελεῖν ἢ μὴ βλάπτειν. ‘As to diseases, make a habit of two things – to help or at least to do no harm.’ and *Aff.* 13 (5,22 Potter; 6.220 L.) καὶ ἀπὸ τοῦ θεραπεύοντος κακὸν μὲν μηδὲν προσγίνεσθαι, ἀλλ’ ἀρκέειν τὰ ἀπ’ αὐτῶν τῶν νοσημάτων ὑπάρχοντα, ἀγαθὸν δὲ ὅ τι οἷός τε ἂν ᾖ. ‘Let nothing bad be added by the person treating – rather let the evils resulting from the diseases themselves suffice – but only whatever he is capable of.’

²¹ On laymen taking part in medical debates in Greece in the fifth and fourth centuries BC see Lloyd (1979) 38 ff.

²² *Hipp. Aff.* 40 (5,64 Potter; 6.250 L.) ὅσοι τὸν οἶνον πίνουσιν ἀνηλεῶς, τούτοις διδόναι ἅ γέγραπται ἐν τῇ Φαρμακίτιδι ποτὰ σκευαζόμενα. ‘To those who are harmed by drinking wine give the prepared drinks recorded in the *Medication Book*.’

²³ *Hipp. Aff.* 4 (6.212 L.), 9 (6.216 L.), 15 (6.224 L.), 18 (6.226 L.), 18 (6.228 L.), 23 (6.234 L.), 27 (6.238 L.), 28 (6.240 L.), 29 (6.240 L.), 40 (6.250 L.).

no specification of diuretic remedies is to be found, apart from the above mentioned indication to look them up in the recipe book.²⁴ The book *Remedies* must have therefore been easily available for consultation both to physicians and to other interested persons.

Hermann Schöne published in 1924 an article where he reproduced a Greek text transmitted in the manuscript Vaticanus Urbinas 64 under the name of Hippocrates' *περὶ φαρμάκων*;²⁵ the German scholar also pointed out the existence in this text of a parallel passage to *Affections* chapter 36.²⁶ This clear coincidence between both texts still remains to be explained, but has in fact already raised scholarly debate – for instance W. Artelt proposed that part of the passage be deleted, because it is the only place in the text where the bihumoral theory of the tract is expanded to four humors, including water and dark bile.²⁷ There are no more similarities that could link both texts to each other and probably we will never be able to establish the relationships and/or differences between the excerpt transmitted by the Vaticanus Urbinas 64 under the name of *περὶ φαρμάκων* and the recipe collection that the author of *Affections* considered so useful.

Anyway, the layman had not only a basic medicine manual at his disposition, the treatise *Affections*, but he was also inevitably made to consult the collection of drug recipes if he wanted to obtain the therapeutic procedures. It is taken for granted that the reader has access to written information on how to prepare and administer drugs as well as on the effects they may have, and the importance of following the instructions specified in *Remedies* is particularly stressed by the author.²⁸

²⁴ See for instance Hipp. *Aff.* 20 (6.230 L.) and 32 (6.244 L.).

²⁵ See Schöne (1920-1924).

²⁶ The parallel text is Hipp. *Aff.* 36 (5,58 Potter; 6.246 L.) ὅσοι μὲν χολώδεις εἰσι, διδόναι ὑφ' ὧν χολή καθαίρεται· ὅσοι δὲ φλεγματώδεις, ὑφ' ὧν φλέγμα. ὅσοι δὲ μελανχολῶσιν, ὑφ' ὧν μέλαινα χολή· τοῖς δὲ ὕδρωπιῶσιν, ὑφ' ὧν ὕδωρ. 'When patients are bilious, give medications that clean out bile; when they are phlegmatic, give medications that clean out phlegm. When they are melancholic, give them medications that clean out dark bile; when they suffer from dropsy, give medications that clean out water.' See Schöne (1920-1924) 447.

²⁷ On this see Artelt (1937) 87, who proposed to delete the last two sentences, as they are the only place in the whole treatise that makes reference to black bile and water as humors. See also Jouanna (1992) 411 and Monfort (2000), (2002) 87.

²⁸ Hipp. *Aff.* 33 (5,56 Potter; 6.244 L.) καὶ ὅσα μὲν σίτων ἢ ποτῶν ἐχόμενά ἐστιν, ἢ ῥυφημάτων ἢ φαρμάκων, ὅσα ὁδύνης εἵνεκα δίδονται, ἀκίνδυνά ἐστιν ἅπαντα ἃ δεῖ προσφέρειν, ἐὰν κατὰ τὰ γεγραμμένα προσφέρῃς. 'Of the foods, drinks, gruels or

Apart from that the reader may also wish to have some knowledge of eye diseases, gynaecology, internal suppuration or consumption but the author of *Affections* states clearly that such information should be obtained elsewhere.²⁹

References to other medical books are not frequent in the *Hippocratic Corpus*, but as we can see, apart from *Remedies*, in *Affections* there are two more passages that one could interpret as allusions to other existing or to-be-written medical books.³⁰ The possibility of having access to more medical knowledge by consulting other books is present throughout the treatise.³¹

Conclusion

Affections is a medical work for non-physicians. Its text reflects a situation in which medical knowledge is definitely not confined to specialists, but is part of the public domain. Intelligent laymen are expected to be able to understand medical themes, to judge the competence of physicians and to get a background that is solid enough to express their opinions of the decisions and the practice of specialists. They can even contribute to the development of medical science by discovering some types of drugs and their effects. These discoveries are only a result of mere chance, but in this sense laymen have the same possibilities of finding out efficient and useful remedies as medical

medications given against pain, all that you have to administer are safe, if you administer them as prescribed.'

²⁹ Hipp. *Aff.* 5 (5,14 Potter; 6.214 L.) ταῦτα μὲν ὅσα ἀπὸ τῆς κεφαλῆς φύεται νοσήματα, πλὴν ὀφθαλμῶν· ταῦτα δὲ χωρὶς γεγράφεται. 'Such are the diseases that arise from the head, except for those of the eyes, which will be handled separately.' *Aff.* 33 (5,56 Potter; 6.244 L.) ταῦτα μὲν ὅσα κατὰ κοιλίην γίνεται νοσήματα, πλὴν περὶ ἐμπύων καὶ φθινόντων καὶ τῶν γυναικείων· ταῦτα δὲ χωρὶς γεγράφεται. 'These are the diseases that arise in the cavity, except for patients that suppurate internally, consumptives and diseases of women, which will be described separately.'

³⁰ To identify these references with mentions of other Hippocratic writings such as *Sight*, the gynaecological treatises, or *Diseases* 1, where a thorough description of internal suppuration is made, is a hypothesis that can unfortunately neither be confirmed nor refuted. Nevertheless, there are some coincident elements regarding language and therapy in *Affections* and *Sight* that can be used as indications for establishing an approximate date and for grouping different treatises within the *Hippocratic Corpus*. For such coincident elements see Rodríguez Alfageme (1993) and Craik (2005).

³¹ On book commerce and constitution of private libraries in Ancient Greece see Kleberg (1975) and Canfora (1988).

practitioners have. Concerning the usage of liquid medications to be taken orally and remedies for wounds it is worth learning from everyone and that means that the interchange of medical knowledge among non-specialists is also envisaged by the author of *Affections*. He further describes a society with permeable and unclear boundaries between 'specialised' and 'lay' medical knowledge.

Educated laymen are supposed to have an intellectual interest in medicine; they have access to medical handbooks and collections of recipes. The author of *Affections* conceives medicine as an essential part of laymen education.

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Educating the Public, Defending the Art: Language use and medical education in Hippocrates' *The Art*

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Summary

The Hippocratic treatise *The Art* is an epideictic speech in defence of medicine against certain unnamed detractors. The author of *The Art* is fully aware of the fact that for him, language (as opposed to, say, a live demonstration) is the medium of education. Accordingly, the author shows full command of the main issues of the late fifth century 'sophistic' debate on the nature and the correct and effective use of language. In his views on language, the author seems to adopt a quite positivistic stance. For him, words reflect our perception and interpretation of the visual appearances or *eidea* of the things that are, and these appearances prove the existence of things in nature. To this extent, language reflects reality, provided that we language users have the expertise to form correct interpretations of what we observe. At the same time, language remains a secondary phenomenon: it is not a 'growth' of nature, but a set of conventional signs that have a basis in reality only if they are applied correctly. There is always the possibility of incorrect interpretation of our perceptions, which will lead to an incorrect use of language that does not reflect real phenomena. Words remain conventional expressions, and not all words can be expected to reflect the truth. In fact, the unnamed detractors of the art are victim to many such incorrect interpretations. Consistent with his view of language as secondary to visual phenomena, the author claims in his peroration that as a medium for the defence of medicine, the spoken word is generally considered less effective than live demonstrations. This modesty, while undoubtedly effective as a means to catch the sympathy of his public, still seems slightly overstated. Our author is fully aware of the powers and limitations of his medium, and shows great sophistication in its use.

Introduction

The Hippocratic treatise *The Art* is an epideictic speech in defence of medicine against certain unnamed detractors. The speech addresses widespread reservations about the art of medicine and aims to counter scepticism among the public in general, and to attract well-educated laymen to an education in the medical profession. As such, the speech is a sophisticated piece of work and has received a deservedly favourable reception in modern scholarship,¹ even if attributions to one or another of the central members of the sophistic movement fail to convince in the long run.²

The author of *The Art* uses the spoken word as a tool of instruction in order to demonstrate the existence and the power of medicine. Indeed, he endeavours to prove the existence of the arts in general, and medicine in particular, by means of arguments derived from contemporary ideas concerning the relations between reality (*ta onta*) and its visual manifestations (*eidea*), and between language and the reality to which language is supposed to refer.³ As such, the author shows full command of the debate on the nature and the correct and effective use of language commonly associated with the fifth century sophistic movement. That is not to say that he is by any means a theorist of language himself: he seems to be more concerned with effective language use than with theoretical speculation. As far as his theoretical views are concerned, he seems to adopt a relatively 'positivist' stance. He is unreservedly optimistic about the reliability of visual appearances. He certainly does not regard them as inherently erratic manifestations of an underlying stable reality, in the way an Eleatic philosopher might do,⁴ nor does he share the epistemologic doubts concerning the relation between sensual perception and reality commonly attributed to Protagoras.⁵ With regard to language he is

¹ Among the more comprehensive studies of the work, see esp. Gomperz (1890), Vegetti (1963-1964), Jouanna (1988), Jori (1996).

² Gomperz (1890) 26-34 attributes the piece to Protagoras or one of his pupils; Dupréel (1948) 242-251 to Hippias, cf. Jori (1984-1985) 261-267; Ducatillon (1977) 76-83 to Herodicus of Selymbria.

³ The piece is now generally accepted to belong to the last quarter of the fifth century BC, cf. Jouanna (1988) 190-191, Jori (1996) 43-54.

⁴ On the anti-Eleatic stance of the treatise, cf. Gomperz 8, 24-26, Jori (1996) 115-125, and see also Jouanna (1988) 175-176. Taylor (1911) 225, by contrast, regards our author as 'an adherent of the Eleatic doctrine of Being'.

⁵ Jori (1996) 333-357 even identifies Gorgias and Protagoras as the main 'adversaries of the arts' attacked in the present treatise. Jouanna (1988) 174 also names Protagoras but

rather more cautious, regarding it as a cultural phenomenon based on convention; but he is still confident that correct language use is possible, provided that it is based on a correct observation and interpretation of visual phenomena. On the evidence of his words, the author seems to be an intellectual who uses arguments derived from the contemporary debate on language in support of his goal of propagating the medical profession. As such, his speech offers valuable indirect evidence concerning the nature of that debate itself, a type of evidence similar in kind to that offered by the plays of Euripides, or – even more to the point – by the *Histories* of Thucydides.

So the question arises: does the author hold and employs a consistent set of views on the nature and power of language? He certainly *seems* inconsistent occasionally. In the second chapter he seems to claim that words are ‘conventions of nature’ (*The Art* 2.6, 6.4 L.) and therefore generally reliable even if derived from visual appearances,⁶ but four chapters later he regards the concept of spontaneous recovery (*to automaton*, *The Art* 6.4, 6.10 L.) as a mere word without a basis in reality. He admits that live demonstrations are more effective than the spoken word as a means to prove the value of his art (chapter 13, 6.26 L.), but still employs language as his medium of choice.⁷

But in spite of these difficulties, it can, I think, be shown that the author is, ultimately, consistent in his views on language and reality. Central to his thesis is the idea that visual appearances are essentially reliable manifestations of reality. In fact this confidence in visual appearances is not just a theoretical stance; it also shows in practice. Our author in fact devotes a considerable portion of his work to the problem of obtaining visual symptoms of the so-called ‘hidden’ diseases (chapters 9-12, 6.16-26 L.). But these visual phenomena, even if reliable themselves, still need correct interpretation by means of correct reasoning (ὀρθῶς λογίζεσθαι, *The Art* 7.5, 6.12 L.). Again, the importance of correct reasoning is demonstrated in practice, when common objections against the art of medicine, such as seemingly

is generally more careful. Indeed, it would be exaggerated to regard our author as an anti-sophist: as we will see, the Hippocratic author is certainly no typical sophist in his positivist view on language and reality, but he certainly uses the intellectual apparatus and terminology of the sophistic movement.

⁶ On the author’s views of language, see esp. Heinimann (1945) 156-158, Joly (1956) 200 ff., Fabrini and Lami (1979) 123-133, Jouanna (1988) 176-177, Jori (1996) 71 note 3, 379-381.

⁷ On the rhetorical character of the speech, cf. Jouanna (1988) 167-174, Jori (1996) 289-306, esp. 293-299.

spontaneous recoveries or the refusal to treat incurable patients, are exposed as instances of *incorrect* reasoning.

Now if a correct interpretation of reliable visual phenomena is possible, it should also be possible to make correct statements concerning these phenomena. In fact, for our author, language is indeed a cultural and conventional institution rather than a natural phenomenon. But a correct use of language based on correct interpretations of reliable visual manifestations remains entirely possible, and such correct language use can be trusted to go to the heart of the matter. It is only when language is used on the basis of an incorrect interpretation of phenomena that it amounts to an empty and senseless use of 'mere words'.

Thus language is essentially a secondary phenomenon: it is at one remove from the generally reliable visual manifestations of reality, and potentially vitiated by incorrect reasoning. But correct language use is still possible, if it is based on correct interpretations of visual data. This view of the nature of language is entirely consistent with the author's modesty with regard to its use in defence of the medical profession (chapter 13, 6.26 L.). In accordance with the fact that he regards visual phenomena as generally more reliable than words, our author prefers live demonstrations of the powers of medicine to demonstrations by means of the spoken word. But given that correct language use is possible after all, the spoken word can still be useful as a valuable additional weapon in defence of the medical profession. This relatively optimistic view of the use of language justifies the author's choice of language as his medium of persuasion.

In what follows, I will first offer a very brief synopsis of the text of *The Art* (section 2). Then I will examine some key passages in which the author speaks about the nature and correct use of reasoning and language: addressing his views on the nature of visual phenomena (section 3.1), the interpretation of these visual phenomena (section 3.2), language as a medium for the communication of these interpretations (section 3.3), and the use of language as an instrument of persuasion (section 3.4).

When it has been shown that the author does in fact employ a consistent set of views on language and reality, I will finally consider if on the basis of these passages more can be said as to what the author's position may have been with regard to the 'sophistic' debates on language and reality of the late fifth century (section 4).

Contents of The Art

The Art is a short speech – commonly subdivided in only 13 capita.⁸ In its proem, the author first attacks those who detract the arts without offering a useful contribution to human knowledge themselves. In the second chapter, he argues for the existence of all the arts by pointing to the fact that their practises can be observed and understood (as well as taught), which proves that they really ‘exist’.⁹ Then, he limits his subject to the art of medicine, and offers a definition of the art, stating that it consists in ‘liberating the patients from their diseases, reducing the intensity of diseases, or abstaining from treating the fatally diseased’ (*The Art* 3.2, 6.6 L.).

In the first main section of his argumentation (chapters 4 to 8, 6.6-14 L.), the author proves the existence of the art by countering the arguments of those who deny its existence. In chapters 4-6 (*The Art* 6.6-10 L.), the author addresses the case of so-called ‘spontaneous’ recoveries; these do not prove anything against the art, for every ‘spontaneous’ recovery has a cause that can be identified and explained in medical terms, and thus it is not spontaneous in the strict sense of the word at all. In chapter 7 (6.10-12 L.), the author argues that when patients die in spite of medical treatment, it is likely that the patients themselves are to blame, rather than the expert doctors who treat them, for the latter are likely to give the right instructions, whereas the former – in their weakened conditions – are unlikely to carry them out as they should. Finally (chapter 8, 6.12-14 L.), the refusal of some doctors to

⁸ On the structure of *The Art*, see Gomperz (1890) 94, Jouanna (1988) 168-169, Jori (1996) 87-102. I essentially concur with Jori, who divides the speech as follows: Proem (chapters 1-3), Demonstration of the existence of the art of medicine (chapters 4-7); demonstration of the power of the art of medicine (chapters 8-12); epilogue (chapters 13). However, it seems better to let the second part of the demonstrations start with the beginning of chapter 9. The opening sentence of that chapter announces a change of subject after the preceding chapters: τὰ δὲ κατὰ τὴν ἱητρικὴν, οἷά τέ ἐστιν, ὥς τε κριτέα, τὰ μὲν ὁ παροιχόμενος, τὰ δὲ ὁ παρεὼν διδάξει λόγος. ‘As to the problems connected with medicine, what their character is and how they are to be judged, the former question has been dealt with in the preceding parts of the speech, and the latter will be shown by what follows.’ The main subdivision of the demonstrative parts then should be: chapters 4-8 refutation of arguments against the existence of the art of medicine; chapters 9-12 problems of diagnostics and the treatment of hidden diseases.

⁹ One can only agree with Jouanna (1988) 168-169 and Jori (1996) 87-102 that the second chapter (argumentation for the existence of the arts in general) is an integral part of the argumentation of the speech, and certainly not an ‘ontologischer Exkurs’ (Gomperz 1890, 94). It contains a general proof of the existence of the arts, which is then substantiated in the case of the art of medicine in the main demonstrative sections.

treat incurable patients again proves nothing against the art, except that there are a number of cases that fall outside its scope.

This last chapter – on incurable diseases – raises the question of the scope and power of medicine, and this question is treated in a comparatively long section (chapters 9-12, 6.16-26 L.) that deals with the so-called ‘hidden maladies’. This section deals with the inner parts of the body (chapter 10, 6.16-18 L.), the problems connected with the diagnostics and treatment of ‘hidden’ maladies (chapters 11-12, 6.18-26 L.); here the so-called ‘vision of the intellect’ (*The Art* 11.2 (6.20 L. *hē tēs gnōmēs opsis*) comes into play and has to invent means to identify secondary, external, symptoms of maladies that are not directly visible. When the successes of the art with these difficult cases have been established, the author closes with a peroration (chapter 13, 6.26 L.) in which he claims that the existence and power of the art of medicine have been successfully vindicated, as far as the medium of the spoken word permits.

The Art on language and reality: visual phenomena

In this section, I will address the author’s views on language and reality, and investigate his views on the nature of visual phenomena (section 3.1), the interpretation of these visual phenomena (section 3.2), correct and incorrect use of language as a medium for the communication of these interpretations (section 3.3), and the use of language as an instrument of persuasion (section 3.4).

Let us start with the so-called visual appearances or *eidea*. In the second chapter of the prologue, the existence of the arts in general is proved. It is argued that the practises of each of the arts can be observed, understood and taught; what is observed and understood exists, and what does not exist cannot be seen and understood; ergo, since the arts are understood because they are taught, and observed because it can be seen what their practitioners do, the arts do in fact exist.

The passage betrays a considerable confidence in the nature of visual phenomena or *eidea* (*The Art* 2.3, 6.4 L.).¹⁰ Against the Eleatic

¹⁰ On the use of the term εἶδεα in the sense of ‘form’, ‘visual appearance’, see Taylor (1911) 225-228, Gillespie (1912), 196-198, Else (1936), 19, Jouanna (1988) 247 note 3, Jori (1996) 49-52. Zeller (1920-23⁷) vol. II, i, 630 note 2, Wilamowitz (1962²) 252-253 and Diller (1962) 187-188 read the use of the term here in close proximity to the Platonic use of the word, but see Jori (1986) 49-52.

dismissal of the phenomena as changing, and therefore misleading, manifestations of an eternally stable Being,¹¹ and against the Protagorean view that our sense perception guarantees nothing about the existence and the nature of the world ‘out there’, the author seems to hold that the visual phenomena are essentially reliable manifestations of the world as it really is. What *is* can be seen and understood; the arts can be *seen* in as far as their practices can be observed, and *understood* in as far as their practices can be taught; ergo, the arts really exist.

Our author’s emphasis on the reliability of visual appearances does not surprise given that his job is to defend an art that largely depends on the identification and interpretation of visual symptoms. And the doctor’s dependence on visual symptoms plays a considerable role throughout the text, most notably in the section on apparent and hidden diseases. There it is claimed that the treatment of apparent diseases must proceed ‘without mistakes’ (*The Art* 9.4, 6.18 L. ἀναμαρτήτους), because they have been fully ‘discovered’ (ἐξεύρηνται). By contrast, the diagnostics and treatment of hidden diseases are rather more problematic, because they cannot be directly observed. Here the ‘vision of the intellect’ (*The Art* 11.2, 6.20 L. τῇ τῆς γνώμης ὄψει) has to take over where the vision of the eyes leaves off, and unsurprisingly, its main task is to find ‘secondary’, ‘external’ symptoms of diseases that are internal and cannot be directly observed.¹² So even this vision of the intellect is not a capacity for theoretical speculation, but rather a faculty for finding external symptoms of internal diseases that cannot be observed directly. Even here, then, observation remains the essence of the doctor’s job. Accordingly, our author shows considerable and consistent confidence in the reliability of visual phenomena: visual phenomena essentially reflect reality as it is.

The Art on language and reality: the interpretation of visual phenomena

But this is not to say that visual phenomena can be trusted to speak for themselves in every case: they have to be understood and interpreted in order to make sense.

¹¹ Cf. note 4, p. 102.

¹² On the notion of the ‘vision of the intellect’, cf. Gomperz (1890) 145, 166-167 note 2, on its function of identifying symptoms of hidden diseases, see Jori (1996) 417-441. On the link with Anaxagoras 59 DK B 21, see Lloyd (1979) 134, Jouanna (1988) 179.

In the second chapter, observation and interpretation are named in one breath (*The Art* 2.2, 6.4 L. τὰ μὲν ἔόντα... ὁρᾶται τε καὶ γινώσκεται), and the difficulty of interpreting visual phenomena is not explicitly addressed. Even here, though, the arts are said to be ‘understood’ in as far as they are taught (*The Art* 2.2 [6.4 L. γινώσκεται τοῖνυν δεδιδαγμένων ἤδη τῶν τεχνέων): it is clearly implied that a proper understanding of the arts is open only to their experts.¹³

Elsewhere, it emerges very clearly that there are many people who do not have a proper understanding of what can be observed in connection to the art of medicine.

In chapters 4-8, the author counters three main arguments of those who deny the existence of the arts.¹⁴ Firstly (chapters 4-6, 6.6-10 L.), the author addresses the case of so-called ‘spontaneous’ recoveries; the main point of the argument against spontaneous recoveries is that in such cases, the behaviour of the patients must have been in accordance with the treatment that medicine would have described if the patients had consulted a doctor. If the patient happened to do the right thing without consulting a doctor, this does not prove anything against the art. These recoveries do not occur by chance; rather, they have causes that can be identified and explained in medical terms.¹⁵ Therefore, they are not spontaneous in the strict sense of the word at all. Secondly (chapter 7, 6.10-12 L.), the author argues that when patients die in spite of medical treatment, it is likely that the patients themselves are to blame, rather than the doctors who treat them. The latter are unlikely to give the wrong instructions, given that they are sane and have knowledge; the patients, by contrast, are unlikely to observe their doctors’ adequate instructions, given that they have no expert knowledge and their condition is weakened.¹⁶ Finally (chapter 8, 6.12-16 L.), some doctors refuse to treat incurable patients. This is held by many against the art, but our author claims that it again proves nothing

¹³ On the close connection between sense perception and intellectual understanding in this treatise, see Jori (1996) 135-139. Gomperz (1890) 7-8, 22-24 argues that our author actually *confuses* the two spheres. Contra Gomperz, see also Vegetti (1963-1964) 310 note 2.

¹⁴ Jouanna (1988) 174 argues that these ‘detractors’ may have made use of arguments drawn from the Protagorean treatise *On Wrestling and on the Other Arts*. Jori (1996) 333-357 seems over-confident in identifying Gorgias and Protagoras as medicine’s main opponents. Cf. note 5 **000** above.

¹⁵ On the limited role of chance or τύχη, cf. Jouanna (1988) 187-188, Jori (1996) 159-164, 317-332.

¹⁶ On the patients’ responsibility for the failures of medical treatment, cf. Jouanna (1988) 188-190, Jori (1996) 182-196.

against medicine, except that there are a number of cases that fall outside its scope.¹⁷

In all these cases, or so the author claims, the arguments against medicine rest on inadequate interpretations of facts that can readily be observed. One can see that some people recover without consulting a doctor while others die in spite of consulting one, just as one can see that doctors give up on lost causes. But it would be wrong to claim that this is due to chance in the first case, to inadequate prescriptions in the second, or to the general shortcomings of the art in the third. In chapter 7 it is stated explicitly that blaming the doctor for the death of a patient is an example of ‘incorrect’ reasoning, and the detractors of the art are described as ‘those unable to reason correctly’ (*The Art* 7.5 οἱ μὴ ὀρθῶς λογιζόμενοι, 6.12 L.). And this ‘incorrect reasoning’ leads to a wrong interpretation of what happens and to misguided blame on the art of medicine.

Throughout both main sections of his argumentation, then, the author of *The Art* sticks to the theoretical assumptions stated in his general defence of the arts in chapter 2. Visual phenomena are reliable in principle and can readily be observed, but they do not speak for themselves. Rather, they are in need of interpretation: it is only the expert who is able to reason correctly and provide the correct interpretation of the visual data.

The Art on language and reality: correct and incorrect language use

So far, then, the author is remarkably consistent in his theoretical assumptions, not only within the theoretical defence of the arts in the second chapter, but also throughout the main sections of his argumentation.

But how about one of the main interpretative problems of the treatise, the designations of words as ‘conventions of nature’ (*The Art* 2.3, 6.4 L. φύσιος νομοθετήματα)? In this last paragraph of the second chapter, the author argues for the primacy of visual manifestations over words: the arts get their names because of their visual manifestations, and not the other way round. For words are ‘conventions of nature’, whereas visual phenomena are ‘growths of nature’:

¹⁷ On the refusal to treat incurable patients, cf. Muri (1936) 15-20, Wittern (1979) 731-734, Jouanna (1992) 153-159, Jori (1996) 195-200, Rosen & Horstmannshoff (2003) 99-104.

Οἶμαι δ' ἔγωγε καὶ τὰ ὀνόματα αὐτὰς διὰ τὰ εἶδεα λαβεῖν· ἄλογον γὰρ ἀπὸ τῶν ὀνομάτων τὰ εἶδεα ἡγεῖσθαι βλαστάνειν, καὶ ἀδύνατον· τὰ μὲν γὰρ ὀνόματα φύσιος νομοθετήματά ἐστι, τὰ δὲ εἶδεα οὐ νομοθετήματα, ἀλλὰ βλαστήματα.

And I think their names, too, derive from their visual appearances. For it would be strange to think that the visual appearances sprout from the names – that is quite impossible. For names are conventions based on nature, and visual appearances are not conventions, but offshoots of nature. Hipp. *De Arte* 2.3 (6.4 L.).

The phrase φύσιος νομοθετήματα is controversial, and seems to be deliberately paradoxical. The genitive φύσιος, when not deleted or transposed,¹⁸ is most often taken as a subjective genitive, and the phrase is then interpreted as ‘conventional institutions of nature’. On this interpretation, words are to be regarded as essentially true to reality, in spite of their conventional nature, for they are to be regarded as conventions created by nature itself.

At first sight, this reading seems to suit the generally positivist tone of the entire chapter. The arts really exist, for their practices can be observed and understood, and their names are conventional designations imposed by nature itself: words refer to visual manifestations of things that really exist.

On such a reading, the argument that the names of the arts derive from their εἶδεα has been taken as a subsidiary argument for the existence of the arts.¹⁹ The argument seems to be that the very existence of the names of the arts already points to the fact that they actually exist: words are secondary perhaps to the natural phenomena themselves, but still firmly rooted in reality.

But this reading runs into trouble when we read in chapter 6.4, at the end of the argumentation against spontaneous recoveries, that τὸ αὐτόματον is ‘nothing but a word, without any real existence’ (*The Art* 6.4, 6.10 L. τὸ αὐτόματον οὐ φαίνεται οὐσίην ἔχον οὐδεμίην, ἀλλ' ἢ οὔνομα μόνον). For the detractors of the art, spontaneous recoveries cast doubt on the effects of medical treatment; when some patients are healed without any help from a doctor, it may be asked whether

¹⁸ Deletion of the word φύσιος was proposed by Dübner (see in Daremberg (1855²) 39 note 9) and again by Diels (1910) 7 and (1913) 389-390, followed by Heiberg (1927) 10 and Heinemann (1945) 157. Transposition after βλαστήματα: Daremberg (1855²) 39 note 9, Gomperz (1890) 44, 104.

¹⁹ See Littré (1855), 4-5, Dupréel (1948) 243, Jouanna (1988) 176-177.

patients who *do* get a medical treatment actually benefit from it; their recoveries might just as well be spontaneous as well. Against these doubts, our author argues that spontaneous recoveries are not spontaneous in the strict sense of the word at all. It is true that in such cases, there is no human premeditation that brings them about; to this extent, such recoveries may seem spontaneous. But in case of spontaneous recoveries it turns out that patients have done exactly what doctors would have advised them to do had they been asked; these recoveries still have a cause that can be identified and explained by the medical specialist and in medical terms. Thus they are not 'spontaneous' in another, rather stricter sense of the word: they are not 'without identifiable cause'. Here, it seems, we have an argument that draws on the polysemy of the word *automaton*. Recoveries that seem spontaneous in one sense of the word, are not really spontaneous in another sense; therefore, it is suggested, they are not spontaneous at all. This turns the category *to automaton* into a term that is 'nothing but a word', a conventional sign without any substance, which is to say that there are no phenomena to which the word can be meaningfully applied.²⁰ Thus, the use of the term is a misleading convention, based on a wrong interpretation of the natural phenomena. But if words are 'instituted by nature', they must be somehow correct, and they can hardly be 'mere words'. We are on the brink of a serious inconsistency here.

A way out of the paradox has been to take φύσις as an objective genitive and read the phrase φύσις νομοθετήματα as 'conventions imposed on nature'.²¹ This interpretation has the advantage of being entirely consistent with the claim that spontaneous recovery is nothing but a word. But is it consistent with the 'optimistic' tone of the second chapter in general? If words are conventional institutions 'imposed on nature' from outside, we can hardly trust words to say something valuable about the nature on which they are imposed. If it is to be taken that words are merely conventions with no base in reality at all, this rather raises the question whether words do at all refer to phenomena that are real in any meaningful sense of the word.

Now it certainly seems that paragraph 2.3 does not serve as a subsidiary argumentation for the existence of the arts. The author has claimed that the arts exit because they can be practised, and their practices can be observed, understood and taught. He then goes on to

²⁰ Cf. Joly (1956) 202, Jori (1996) 71 note 3.

²¹ Jori (1996) 71 with note 3, cf. also Joly (1956) 201, Fabrini & Lami (1979) 133.

argue that the names of the arts too derive from their visual manifestations, just like the fact that these can be understood and taught.²² He certainly does not claim that the existence of names for the arts is in any meaningful sense proof of the existence of the arts themselves. For our author words are a genuinely secondary phenomenon, secondary, that is, to the εἶδεα to which they refer.

But that should not be taken to imply that all words are potentially misleading. If reliable visual phenomena are correctly interpreted and understood by experts who can make sense of these phenomena by means of correct reasoning, the words of these experts will be essentially true. They may use conventional expressions, but these conventional expressions do not go against the grain of nature itself. They are not imposed on nature by force, but in accordance with nature itself.

It seems best then to interpret the phrase φύσιος νομοθετήματα not as a very clear-cut 'objective' genitive, nor as a clear-cut 'subjective' genitive, but as something in between. Words are not 'conventions imposed (forcefully) on nature', nor are they 'conventions instituted by nature itself'.²³ Rather they are conventional expressions 'with a basis in nature', or 'inspired by nature itself'. Words are conventional, νόμῳ, but words coming from the mouth of an expert in a certain field of enquiry can be trusted to say something valuable about the nature of the objects of that field of enquiry. They will reflect correct interpretations of reliable observations of natural phenomena. It is only when a non-specialist, who is incapable of correct interpretation of his observations, starts to speak about the same subject matter, that words will no longer reflect reality: such a non-specialist will use words that are nothing but words.

The Art on language and reality: the persuasive force of language

So far, then, we have seen that the author's views on language and reality are quite consistent. Language is a medium of convention, and it

²² The particle καί in 2.3 οἶμαι δ' ἔγωγε καὶ τὰ ὀνόματα αὐτὰς διὰ τὰ εἶδεα λαβεῖν seems to point out that the visual manifestations of the arts are at the basis not only of the fact that the arts can be understood and taught, but *also* at the basis of their names.

²³ Fabrini & Lami (1979) 125-126 point to the fact that even in Plato's *Cratylus*, it is never suggested that nature might act as an ὀνοματοθέτης or 'name-giver', this function being reserved for human agents; cf. Jori (1996) 71 note 3.

constitutes a secondary phenomenon when compared to the visual manifestations of reality to which it applies. But in spite of its conventional nature, language can still be trusted if it is used by an expert to formulate opinions based on correct interpretations of the visual manifestations which form his field of expertise. Our author is certainly optimistic about the experts' abilities to form such correct interpretations. How does this optimism then fit with his peroration (chapter 13, 6.26 L.), in which the author seems quite modest about the power of linguistic proof of the value of his art as compared to visual demonstrations of that art?

In this peroration, the author claims that most of his colleagues regard the power of the spoken word as limited when compared to the impact of a live demonstration. Hence, live demonstrations are generally the preferred medium for those who advertise the art of medicine.²⁴ In fact, most doctors do not take a full training in rhetoric but prefer to show what they can do.²⁵ The present doctor, however, is more sophisticated: it seems that he must indeed have had advanced training in rhetoric, and his mastery of effective language use is on show in the present passage: he openly admits the *weakness* of language as a tool of demonstration, but turns the admission into an effective appeal to the sympathy of his audience.²⁶ More importantly, this claim is quite consistent with the author's views on language as expounded in chapter 2: in the earlier part of the speech, words were treated as secondary phenomena based on the visual manifestations of the things that are, but still generally reflecting reality in a reliable manner when used by experts in the field to which they are applied.

²⁴ The phrase ἡδίων ἢ ἐκ τῶν λόγων in αἴ τε τῶν εἰδότων τὴν τέχνην ἐπιδείξεις, ἃς ἐκ τῶν ἔργων ἡδίων ἢ ἐκ τῶν λόγων ἐπιδεικνύουσιν ('the demonstrations of those who understand the art, which they prefer to make by means of deeds rather than words') is omitted by ms. A, followed by Gomperz and Jones. But as Jouanna (1988) 212 note 1 points out the omission is probably due to the similarity between the word endings of ἔργων and λόγων. The phrase can be retained.

²⁵ The reading of the manuscripts, καταμελετήσαντες 'they have failed to make a full study', is to be retained. The conjecture καταμελετήσαντες ('they do not neglect the art of speech, but prefer to show what they can do by deeds'), proposed by Zwinger and accepted by Gomperz (1890) 64, 162 and Diller (1962) 198, is difficult to explain paleographically, as Jouanna (1988) 268-9 note 2 points out. Moreover the sense seems strange; the phrase οὐ τὸ λέγειν καταμελετήσαντες would seem to imply that most doctors have in fact made a thorough study of rhetoric.

²⁶ Cf. Jouanna (1988) 268-269 note 2 on the 'fausse modestie' with which the author implicitly includes himself in the category of specialists who have not made a special study of the art of speech.

Here, it is admitted that the spoken defence of the art is not generally considered as effective as the visual demonstration of its power, but it is implied that in the right hands, it can still be quite effective. Language is again a secondary phenomenon when compared to visual phenomena, but again it is not by definition vastly inferior.

And indeed the power of the spoken word seems to be confirmed by the skill that the author shows in his language use. Though admitting its weakness, he uses language as his medium of choice, and he does so with considerable skill. He is also aware of the powers and limitations of language use, and of the theoretical issues of the debate on its nature. In such hands, language may still be a matter of convention, but its demonstrative power is far from weak.

Conclusion

I will now try to draw some conclusions concerning the nature of *The Art*, and the views and status of its author.

The author of *The Art* is certainly no theorist of language, but he uses language both as a medium for his defence of medicine and as a source of argumentation for this defence. And he shows full awareness of the theoretical issues concerning his medium of choice. In his views on language he is certainly not a 'sceptic' or a 'relativist' of the typically sophistic variety, but he is entirely familiar with the debates on language associated with the sophistic movement. While not, in all probability, a Protagoras or a Hippias, he certainly belongs to a wider circle of late fifth century 'sophoi' sharing a substantial body of cultural knowledge. And he seems to hint that he has enjoyed rather more general education than many of his colleagues. Thus, *The Art* is invaluable as a source of thought on the nature and power of language, not perhaps as an original contribution to the theory of language, but as a reflection of ideas for which most of the main sources have been lost.

In his views on language, the author seems to adopt a quite positivistic stance. For him, words reflect our perception and interpretation of the visual appearances or *eidea* of the things that are, and these appearances prove the existence of things in nature. To this extent language reflects reality, and words are 'conventions based on nature', provided that we language users have the expertise to form correct interpretations of what we observe. At the same time language remains a secondary phenomenon: it is the visual manifestation of things that determines their names, not the other way round. Language

is not a 'growth' of nature, but a set of conventional signs that have a basis in reality only if they are applied correctly. For the author of *The Art*, this is not a fatal defect. Language is based on sensual perception of reality, and if our perceptions are interpreted correctly, language will reflect reality.

On the other hand, there is always the possibility of incorrect perceptions, or rather, of incorrect interpretation of our perceptions, and this may lead to an incorrect use of language that does not reflect real phenomena. Words remain conventional expressions, and not all words can be expected to reflect the truth; some are based on *incorrect* interpretations of what we see. In fact, the unnamed detractors of the art are victim to many such incorrect interpretations. In medicine, for instance, 'spontaneous' (*The Art* 6.4, 6.10 L.) is a mere word that does not refer to phenomena that are really there.

Correct language use, then, is based on a correct interpretation of what is observed, in other words, on correct reasoning. Our author does not give any clear criteria for 'correctness' in interpretation and language use. Here we encounter the most serious limitation of his reflections on language: rather than offering criteria for 'correct' interpretation, he simply *invokes* the notion of correctness in order to lend credibility to his defence of medicine.

Consistent with his view of language as secondary to visual phenomena, the author claims in his peroration that as a medium for the defence of medicine, the spoken word is generally considered less effective than live demonstrations. This modesty, while undoubtedly effective as a means to catch the sympathy of his public, still seems slightly overstated. Our author is fully aware of the powers and limitations of his medium, and shows great sophistication in its use. In such expert hands, language is bound to become a very powerful medium for the propagation of the medical education. If the spoken word is less effective than a live demonstration for these purposes, it is only just less effective. And the speaker clearly knows that.²⁷

²⁷ I would like to thank all participants in the XIIth Colloquium Hippocraticum at Oegstgeest, and especially the organisers, Prof. dr. H.F.J. Horstmanhoff, Prof. dr. H. Beukers, dr. R.M. van den Berg and mr. J. Gruson for lively and stimulating discussion in exquisite surroundings.

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II. Teachers and pupils

Research Program and Teaching Led by the Master in Hippocrates' *Epidemics* 2, 4 and 6

Robert Alessi

Summary

This paper addresses the extent to which one may identify in the author of *Epidemics* 2, 4 and 6 the personality of a master who shared – and probably led – with several colleagues a research program focused on a few topics which were both used for teaching purposes.

The first lines of *Epidemics* 2.3.1 (the so-called *katastasis* of Perinthus), are the starting-point of the analysis, where information is given about the arrival in Perinthus of a community of doctors, probably composed by masters and disciples. Further commenting on this difficult passage (where a new establishment of the text is proposed) in connection with others shows the author either expressing his disagreement with colleagues, or making recommendations to pupils, by words which denote a particularly strong and distinguished personality whose purpose is not to give to the reader a complete description of diseases and symptoms for his observations were in fact determined by precise research considerations.

Medical research is in fact, in this group of doctors and pupils arriving in Perinthus where the personality of the author prevails, closely related to the needs of teaching.

As is commonly acknowledged, books 1 and 3 of the *Epidemics* treatises were regarded very early as genuine works of the great Hippocrates. At any rate, such an assumption was current early in the first or second century AD, when the various treatises were compiled for the publication of the *Hippocratic Corpus*. Although such judgements were put forward more than five centuries after those treatises had been composed, books 1 and 3 would seem from the outset to have presented a higher level of completion, and better stylistic consistency; above all, they were considered as better materials for publication than the other five.

There is an interesting example in Galen's *On Hippocrates' 'Epidemics II'*. In all the manuscripts Galen had before him, one clause,

in section 2, is repeated within a short interval.¹ This is a faulty repetition which is not found in the manuscripts of the direct tradition. But for Galen, this repetition proves that book 2 of the *Epidemics* is nothing more than a collection of notes which were first written down on-the-spot by the great Hippocrates himself, then copied out by his son Thessalos. In fact, Galen makes an important distinction in this passage of his commentary: whereas books 1 and 3 of the *Epidemics* were *composed* and *published* by Hippocrates, books 2 and 6 were *written down* by Thessalos, Hippocrates' son, who brought together his father's scattered notes. But, Galen adds, Thessalos, was not content with making a fair copy of his father's notes; he actually added several remarks of his own to this original composition. And later, Galen continues, others took over and altered the text written by Hippocrates and Thessalos. This is how Galen accounts for the numerous obscurities instances of clumsiness he found in the text, while pointing out that most earlier commentators share his opinion.²

Whatever we may think about this opinion, we must consider the question of authorship: a skein which is impossible to untangle today. I will very briefly point out immediately below some recent opinions and disagreements among modern commentators. In his 'Argument général aux *Épidémies* II, IV, V, VI et VII', Littré remarks that books 2, 4 and 6 'tiennent entre eux par les liens les plus étroits, et, à vrai dire, c'est un

¹ This is about the last clause being connected to the story of Apemantes and the son of the carpenter (*Epid.* 2.2.9): ἐρωτήματα εἰ ῥῆϊον (εἰ ῥῆϊον restituit Nikitas (1968) 182, note 248) e Gal.(Ar.) *ob es leichter ist* cf. Hipp. *Aph.* 2.11 (4.472.8 L.): εἴρεον V ἤρεον γὰρ αὐτοὺς IRH) ἀεὶ πληροῦσθαι ποτοῦ ἢ σιτοῦ, 'questions: whether it is easier to fill oneself with drink or food.'

² Gal. *In Hipp. Epid. II comment.* 2 (213.20-31 Pfaff): 'Es ist ihre (Galen refers to those who commented on Hippocrates) und meine Meinung, daß das erste Buch von der Schrift "Epidemien" ein Buch ist, das Hippokrates verfaßt und zum Lesen veröffentlicht hat, und daß ebenso mit dem dritten Buche ist. Diese zweite und das sechste Buch dagegen hat Thessalos, der Sohn des Hippokrates, geschrieben, indem er alles sammelte, was er von seinem Vater auf Pergamentblättern oder -zetteln oder Papier geschrieben fand. Man erzählt auch, daß Thessalos von sich aus zu dem, was er von seinem Vater vorfand, Zusätze machte. Auch sagt man, daß nacher Leute gekommen seien, die in diese beiden Bücher Sätze, die nicht von Hippokrates stammten, einschmuggelten. Dieserhalb finden wir in diesen Büchern aus den angegebenen Gründen viele sehr dunkle und unklare Sätze.' We have to point out that Galen does not suggest, in this passage, that Thessalos might have been the real author of *Epidemics* 2 and 6. He just made a fair copy (*geschrieben hat*) of notes that he already found written down. Galen certainly took care not to use here the verb *verfassen* (i.e. συγγράφειν) which connotes an original composition, and is used about books 1 and 3 for Hippocrates.

seul et unique travail, un recueil de notes dans lesquelles l'auteur se réfère continuellement d'un livre à l'autre.' (5.3 L.). And a few pages further on (5.6-7 L.) another remark reads as follows:

On voit donc que les Ép. II, IV, VI sont entre eux dans des rapports tels qu'ils appartiennent au même auteur. Il serait même impossible d'établir entre eux une antériorité. Cela tient à ce que ces notes, déposées sans doute sur des feuilles détachées, ont été réunies après la mort de l'auteur, dans un ordre qui n'était pas l'ordre primitif, si tant est que l'on puisse admettre un ordre pour des pensées jetées au fur et à mesure et non encore préparées pour la publication.

Nowadays, commentators have reached a higher level of scepticism. I will provide only two examples. A. Nikitas, in his doctoral thesis on *Epidemics* 2, 4 and 6, considers the author of *Epidemics* 4 to be separate from the authors of the two others in this group because of his characteristic and deplorable research method, as well as his constant and clumsy attempts to put forward his own knowledge, while following the threads of the other two books.³ More recently, V. Langholf (1990) 135, considers that books 1 and 3 might have been by the same author or at the least 'one closely organized group of authors', while books 2, 4, 6, 5 and 7 were likely to be comprised 'of materials from various sources and perhaps by various authors'.⁴

Examining this delicate matter would be beyond the scope of the present paper. I would rather show, from several passages of books 2, 4 and 6 of the *Epidemics*, that the strong personality of an eminent doctor, accompanied by a few colleagues and several students, naturally emerges. Furthermore, I would like to show that it is possible to consider that the doctor devoted his attention to particular and personal research matters which he also used in his teaching. In this paper, I will mostly focus on *Epidemics* 2.3.1, the *katastasis* of Perinthus, a place where this group of doctors and students arrived towards the summer solstice.

³ See for instance Nikitas (1968) 192 note 3: the story of the wife, or daughter or sister of Eumenes.

⁴ For a historical review of the authorship of the *Epidemics* treatises, see Jouanna (2000) XI-XVII.

A doctor in business relation with colleagues and students

On the notion of *katastasis*, the reader may usefully refer to Langholf (1990) 168-179, which includes an extensive bibliography; outside the *Epidemics* treatises, see Jouanna's edition of *Airs waters places* (1996) 29-33. As to the particular *katastasis* of *Epid.* 2.3.1, it is made up of fundamental and precise elements which, considered as a whole, shed new light on the doctor's relations and research matters. These elements can be listed as follows:

1. Place of observation: Perinthus (5.100.2 L.).
2. Duration of the doctor's (or doctors') and their disciples' stay in Perinthus: from the beginning of the summer (around the summer solstice) to the end of fall, in other words the setting of the Pleiades.⁵
3. Observations about the weather: from the winter preceding the doctor's arrival in Perinthus to the end of fall. Thus the total duration is about a whole year. Hence we must assume that the observations about the weather during the winter and the spring can rely only on questions the doctor may have asked the inhabitants of Perinthus, for he states that he did not arrive there before the beginning of the summer.
4. There is mention of only one epidemic disease, the burning fever or 'causus'; period of observation: the summer, τοῦ θέρεος καῦσοι ἐπεδήμησαν πολλοί (5.100.6 L.).
5. Description of the disease, semiological information, ἦσαν δὲ ἀνήμετοι κτλ. (*ibidem*)
6. Informations about prognosis, ἐκρίνετο πάντα τὰ πολλὰ περὶ τεσσαρεσκαίδεκα (5.100.17 L.). The prognosis was thus favourable. Besides, the author remarks that generally people did not die in this *katastasis*: ἀτὰρ οὐδὲ τὸ σύμπαν ὑπὸ τῆς καταστάσιος ταύτης ἔθνησκον (5.102.10 L.).

As for the personality of the doctor who wrote down this *katastasis*, the opening clause is important. It reads as follows:

⁵ However, we must remark that the physician does not explicitly say he left Perinthus at this time. However, we know for a fact that all observations are confined within the time-frame preceding the setting of the Pleiades. Moreover, all the observations connected to the fall are about nothing but the weather: actually, the only disease which is described in this *katastasis* is a summer disease.

Ἔς Πέρινθον περὶ ἡλίου τροπᾶς ὀλίγον τὰς θερινὰς ἦλθομεν.
We arrived in Perinthus roughly by the summer solstice. 5.100.2 L.

ante ἐς Πέρ. add. καιροῦ κατάστασις R^{sl} || ἦλθομεν codd. Gal.D: *ich betrat*
(ἦλθον) Gal.(Ar.)⁶

Although ἦλθομεν might very well have been a *pluralis modestiae* standing for a single person, we nevertheless cannot dismiss the possibility that it could refer to a community of doctors, whether it be made up of masters and disciples or not, who all arrive at Perinthus at the beginning of that summer. I should mention in this respect a possible variant which has not yet been pointed out by modern editors: Galen's lemma reads in fact *ich betrat* (249.32 Pfaff), that is ἦλθον instead of ἦλθομεν. But we have no positive reason to emend the reading of the manuscripts, which I may add is confirmed in Galen's *Difficulties in Breathing* 3.11 (7.947.10 K.).⁷

Moreover, and this is for me the strongest evidence, we find in this *katastasis* of Perinthus some unquestionable usages of the first person singular which may very well mean that this doctor, although he arrived in Perinthus accompanied by other doctors and/or disciples, was the only one taking on the responsibility for his statements and observations. The following two examples from this *katastasis* show this clearly.

In his observations on the epidemic burning fever (*causus*) which spread over Perinthus during the summer and is the only disease described in this *katastasis*, the author remarks that there were no haemorrhages from the nose during the crisis, except for a few people, nor did he notice 'parotitides' in such cases, adding 'about whom I will write later':

αἱμορραγαίαι <ἐν κρίσει> ἐκ ῥινῶν οὐκ ἐγένοντο, εἰ μὴ ὀλίγοισιν, οὐδὲ παρ' ὧτα <τού>τοις περὶ ὧν ὕστερον γράψω.

There were no haemorrhages from the nose during the crisis except for few people, nor were there parotitides with these patients, about whom I will write later. 5.100.14 L.

⁶ Spelling variations and readings of little import are omitted here and below. Gal.D means Galen's *De diff. resp.* 3.11 (7.947.10 K.); Gal.(Ar.) means Galen's *In Hippocratis librum secundum Epidemiarum commentarii* (Pfaff 1934).

⁷ I should express all proper reserves, since the passage here quoted comes from Kühn's edition.

ἐν κρίσει addidi *während der Krisis* Gal.(Ar.): om. codd. edd. || παρ' ὧτα
 τούτοις scripsi *ebenso war es mit den Anschwellungen an der Ohren*
 Gal.(Ar.) qui fortasse tantum οὐδὲ παρ' ὧτα habet: παρωτάτοις (sic) codd.
 παρ' ὧτα, εἰ μὴ τισι coni. Littré Smith || περὶ-γράφω om. Gal.(Ar.)

As we can see, the text here proposed is noticeably different from Littré's and W. D. Smith's.⁸ As to its meaning, this remark must be read in connection with the previous one. The author writes that while in most cases there were no nosebleeds, there were nevertheless some noticeable exceptions, εἰ μὴ ὀλίγοις, and the same applied to these patients (τούτοις) for parotitides. But in these cases also, there were exceptions with which the author of this *katastasis* reserves the possibility of dealing later or further, περὶ ὧν ὕστερον γράψω.⁹ Fortunately, one can read the description of these exceptions, which are the very first two stories to be found right after the *katastasis* of Perinthus: the story of Zoilos and the story of Empedotimes (5.104.12 and 106.3 L.). This proximity might even lead us to assume that the author wrote these two stories right after completing the *katastasis* of Perinthus, although we cannot be positive about this.

The second example is also part of the description of the same epidemic fever. Some patients suffered from roughness under the skin between the seventh and the ninth day of their fevers, as if they were bitten by mosquitoes; then the author adds the following:

⁸ I added from Gal.(Ar.) ἐν κρίσει after αἱμορραγία. In an exemplar written in uncials, ἐν κρίσει might have been omitted in the string ENKΡΙΣΕΙΕΚΡΙΝΩΝ, which presents several letters of similar shape. Replacing this word here is interesting: firstly, because the author deals with the crisis a few lines further on; secondly, because he thinks that hemorrhages from the nose are directly connected to the time at which the crisis occurs, as may be seen in *Epid.* 2.1.7 (5.78.11 ff. L.). In this description, such haemorrhages only occur in a few cases (εἰ μὴ ὀλίγοις). In the following clause, παρωτάτοις is obviously nonsense. Gal.(Ar.) (252.21-22 Pfaff) reads *ebenso war es mit den Anschwellungen an den Ohren*. The first possible emendation of the text of the manuscripts should be to remove -τοις, so as to only read οὐδὲ παρ' ὧτα. But if we retain the -τοις of the manuscripts, we could also read τούτοις in a more conservative way, and therefore understand: 'neither were there parotitides with these <patients>'.

⁹ In my opinion, I see no reason to delete these words which are missing in Gal.(Ar.); as to Littré's reading, adopted by W. D. Smith, εἰ μὴ τισι, περὶ ὧν ὕστερον γράψω, it seems to me too strong an emendation, even though εἰ μὴ is given by ms. J (= *Parisinus* gr. 2143, fourteenth century) instead of περὶ, for this reading cannot conceivably be ancient.

ἄρσενι δὲ οὐδενὶ εἶδον ταῦτα ἐξανθήματα· γυνὴ δὲ οὐδὲ μία ἀπέθανεν, ἢ ταῦτα ἐγένετο

I did not notice these eruptions on any male; but none of the women who had them died. 5.102.5-6 L. .

ταῦτα V diese Gal.(Ar.): τοιαῦτα IRH || οὐδὲ μία V IH: οὐδεμία R

The former example showed us that the doctor took on sole responsibility for clinical descriptions in delicate cases that could sometimes lead him to subtle distinctions. In the latter example, the use of the first person singular clearly brings out the doctor's personality as well as his exclusive responsibility for the account of the epidemic fever at Perinthus which is the only disease being described in this passage. Furthermore, in this account in the past tense, the distinction between males and females as well as the emphasis on negations (ἄρσενι οὐδενί, γυνὴ δὲ οὐδὲ μία) provide further evidence of this, and give us the impression that all cases have been observed and that the description is complete — our doctor being the sole author of the final account for all cases.

However, such features do not mean that this physician was not in a business relation with other colleagues, with whom he was carrying out medical research. As already seen above, the use of the first person plural in ἐς Πέρινθον... ἦλθομεν seemed to refer to a group of doctors. Before illustrating this feature by one final example from the *katastasis* of Perinthus, I would like to discuss some other examples taken from other passages of the *Epidemics* which depict for us lively scenes of these doctors comparing their opinions.

The first example comes from *Epidemics* 2.2.24: this famous passage describes 'the affections resulting from cynancus', τῶν κυναγκικῶν τὰ παθήματα.¹⁰ Many features of this wide ranging description show that the observations are directly and closely connected to an inquiry made

¹⁰ Littré (5.94.14 L.). In his commentary of this passage (241.37 Pfaff), Galen refers to *Prog.* 23 (2.176.2 L.), and gives κυνάγχη a broad sense: every affection of the larynx that makes the patient have a feeling of strangulation. See Smith (1994) 41, n. b: 'The term refers to a severe sore throat that feels like a dog's choke collar.' On this passage, see especially Grmek (1983) 479 ff., Langholf (1990), 150 ff., Nikitas (1968) 42-43 and Deichgräber (1933) 26 ff. On κυνάγχη, see also Jouanna, ed. *Diseases* 2 (1983) 122 note 6 with bibliography: 'κυνάγχη (cf. fr. *esquinancie*) désigne primitivement une maladie du chien, qui le tuait par étouffement; cf. Aristote, *Histoire des animaux*, VII, 22, 604a 5 et 9.' For other descriptions of this disease, J. Jouanna also quotes *Diseases* 3 (see note 12, p. 126 below), *Prog.* 23 (2.176.2 L.), *Coac.* 372-376 (5.660.5-662.17 L.), and *Loc. Hom.* 30 (65.16 Joly; 6.322.21 L.).

by an easily identifiable doctor who spent time at his patients' bedsides. All signs are reported in the imperfect tense, which makes it clear that they were actually observed and the author does not use anybody else's material. The author's personality is conspicuous, since he tells the reader about himself in the first person singular and asserts himself as solely one responsible for this description. In this sense, particularly interesting is the following observation about patients whose vertebra bulged forward:

οἷσι μὲν οὖν ἦν ἐς ὀρθὸν ἐξόγκωμα, μήτε ἑτερόρροπον, οὔτοι οὔτε παραπληκτικοὶ ἐγένοντο· ἀπολλόμενόν τε εἴ τινα εἶδον, ἀναμνήσομαι· οὐς δὲ οἶδα νῦν, περιεγένοντο.

People whose protrusive vertebra bulged forward, rather than on either side, were not stricken with paralysis; if ever I see anyone dying, I will mention it. All those I know have so far recovered. 5.96.16-98.1 L.

οὔτοι οὔτε codd. *die bekamen keine...* Gal.(Ar.): οἱ τοιοῦτοι Gal. *De loc. aff.* 4.6 (8.239.9 ff. K.) οὔτοι Littré || ante ἐγένοντο add. οὐκ Littré.

As can be seen, contrary to what is to be found in the nosological treatises, and in particular in *Diseases* 2-3,¹¹ the passage of *Epidemics* 2 denotes actual observations.¹² This remark also shows us that the doctor intends to provide an overall nosological picture. The same remark applies to the very last clause of this passage, which reads: 'All <the patients> I am myself aware of died', οὐς δὲ ἐγὼ οἶδα, πάντες ἔθνησκον (5.98.18 L.).¹³ However, these clauses are somewhat surprising as they both suggest that this description is not complete. Besides, the pattern the author followed in describing the disease gives us an unquestionable impression of completion. The best way to understand this clause is to assume that the author considers the number

¹¹ On this point, see Langholf (1990) 150 f with bibliography. We find other descriptions of 'cynancus' in *Morb.* 2.26-28 (159.9-164.14 Jouanna; 7.40.9-46.15 L.) and *Morb.* 3.10 (76.30-78.20 Potter; 7.128.16-130.16 L.).

¹² In all of the passages quoted from *Diseases* 2-3 in p. 125, note 10, the personality of the doctor or the doctors who describe the affection never appears: verbs that are used mostly refer either to the disease or to the parts of the body affected. The author also uses verbs either in the second person singular or in the imperative infinitive with the purpose of attracting the reader's attention or making therapeutic recommendations. In the same way, the personality of the patients never appears. All verbs in the third person singular actually refer to symptoms of the disease, in such a way that the patient is, by metonymy, a substitute for the disease.

¹³ The author describes those patients whose prominences were on one side.

of patients he observed sufficient to make his account; but as he was writing his account, the epidemic disease was not over, and new cases came to his knowledge; however, they do not present any features he is not already aware of. Thus he can be positive about prognosis: whenever the protrusion is forward, the disease is not deadly, at least in all cases he was confronted with, οὐς δὲ οἶδα νῦν; he thus reserves the possibility of modifying his judgement. V. Langholf already noticed that this clause suggests that the author is in contact with colleagues to whom he is likely to exchange information.¹⁴ I may add here that this doctor is in company with other doctors and/or several disciples to whom he addresses all his remarks, as other examples will show.

Advice, agreement and disagreement

The passages of *Epidemics* 2, 4 and 6 that can be interpreted as simple notes taken by the physician so as to structure oral teaching are numerous and well identified.¹⁵ As a matter of interest, we could refer, in *Epidemics* 6, to ‘What, from the little writing tablet, has to be studied’, τὰ ἐκ τοῦ μικροῦ πινακιδίου σκεπτέα.¹⁶

¹⁴ Langholf (1990) 151: ‘In the particular case of *kynagkhē* report, there is even a hint that the intended reader(s) and the author (if there were not identical as in the case of personal notes) stood in a close relationship of permanent communication.’

¹⁵ For an overall study, see Langholf (1990) 142-149 with comprehensive bibliography. Particularly significant are the numerous elliptical clauses which start with ὅτι, or the sentences which are made of long enumerations of various topics. According to V. Langholf, ‘Since their wording is so extremely concise, it seems plausible that this text is a copy from a teacher’s note-book (a set of several wax-tablets). Whereas one cannot completely rule out that these notes were intended for the composition of book (although for this purpose they seem, once again, to be too concise), it is quite unlikely that they are notes kept by a student listening to this teacher or excerpting literature, because in this case their practical value would have been minimal. Their extreme brevity and their sometimes rather theoretical content make it equally improbable that they were a collection of views-points composed to guide the medical practitioner in his daily task of examining patients.’

¹⁶ See Manetti and Roselli (1982) 166.9 ff. with commentary. An extensive collection of notes which Deichgräber (1933) 35 already considered to be a comprehensive medical programme. Manetti and Roselli (1982) 168 n. see in this passage a material of consistent notes which might have been taken for research purposes: ‘È quindi giustificata l’impressione che tutta questa parte costituisca un blocco omogeneo e che la redazione del materiale obbedisca ad un solo criterio che è quello di annotare gli elementi fondamentali dell’indagine sulla malattia.’

Examining *Epidemics* 2.3.1 (*katastasis* of Perinthus) further from this angle is particularly interesting since this *katastasis* ends strikingly with a long series of recommendations of a general nature once the report on the epidemic burning fever is completed. This passage reads as follows:

Ἐφ' οἷσι, εἴ τε καὶ ὁκοῖα τὰ σημεῖα, καὶ πλείω ἢ μείω γινόμενα, χάσμη, βήξ, παρμός, σκορδίνημα, ἔρευξις, φῦσα <καὶ> τὰ τοιαῦτα πάντα διαφθειρούσῃσιν ἐν πυρετοῖσιν ἀσώδεσι, φρικώδεσιν, ἐρεύθονται πρόσωπα, κοπιώδεις, ὀμμάτων ὀδυνώδεις, καρηβαρία, παραπληγία· καὶ γυναικεῖα, ἣν ἐπιφαίνεται, μάλιστα δὲ ἥσιν πρῶτον, ἀτὰρ καὶ παρθένοισι καὶ γυναιξὶν ἥσιν διὰ χρόνου, ἀτὰρ καὶ ἥσιν μὴ ἐν ᾧ εἴθισται χρόνῳ, ἢ ὥς δεῖ, ἐπιφαίνονται, ἔπειτα ἔξωχροι γίνονται. Μέγα δ' ἐν ᾧ, τὸ καὶ ἐξῆς, καὶ ἐν ᾧ χρόνῳ, καὶ ἐφ' οἷσι. Τοῖσι πάνυ χολώδεσιν, ἐν πυρετοῖσι μάλιστα, ὅλως [οἷσιν] ἐπὶ σκέλεα ἢ κάθαρσις.

<It has to be studied:> people who present signs, whether signs occur and what signs occur ; if there are more or fewer of them: yawning, cough, sneezing, pandiculation, belching, flatulence, and all similar signs. Women who abort after fevers along with nausea and shivering, <who> develop red faces, suffer from exhaustion, eye pain, heaviness in the head, paralysis; and the menstruations: whether they occur, especially to those who have them for the first time, but also to maidens and to women who have them at intervals, to those who do not have them at the time they ought to, after which they become pallid. Important in every case: <consider> subsequent signs, times at which they occur, people that are affected. For the very bilious, especially in fevers, the purge is generally to the legs. 5.102.16-104.5 L.

οἷσι, εἴ τε scripsi *und wenn, welches sich zeigt, bei wem es sich zeigt* Gal.(Ar.): οἷς εἴτε V οἷσί τε Littré Smith || ante τὰ τοιαῦτα addidi καὶ *und* Gal.(Ar.): om. codd. edd. || πάντα transp. ante τὰ τοιαῦτα Littré Smith || διαφθειρούσῃσιν scripsi: *bei einer Frau, die... abortieren wird* (i.e.: διαφθείρουσῃ) Gal.(Ar.) διαφθείρουσιν ἥσιν V I^{pc}RH Smith διαφθείρουσιν οἷσι I^{ac} διαφέρουσιν coniunxit cum superioribus uerbis Littré.

In this passage there are many elliptical expressions where verbs such as 'to see, to study' are to be understood. Thus we are here again led to consider them as notes taken by the physician so as to structure oral teaching. It is particularly interesting to find them here, in other words

next to the *katastasis* of Perinthus.¹⁷ However, they do not seem out of place insofar as the observations the doctor makes in this *katastasis* are by far more guided by research purposes than they are by his willingness to give a comprehensive nosological picture of the epidemic burning fever of Perinthus, even though, as it has been pointed out (pp. 122-123; 128), burning fever is the only one which is described in this passage. We may even go one step further, in proposing not to interpret this *katastasis* as a mere set of observations the doctor made when he came to the bedside of his patients, but as remarks which are part of a personal enquiry he made within the framework of a research project he seems to have carried out with colleagues.

This particular feature will be commented on in the latter section of this paper. Before concluding this section, I would like to provide an example from the *katastasis* of Perinthus to illustrate some of the author's possible arguments with other colleagues. The passage deals with a therapeutic recommendation; it is situated just after the account of the epidemic burning fever — in other words just before the note-book we examined above. After stating that the patients generally did not die in this *katastasis*, the author adds:

¹⁷ *Epid.* 2.3.1 ends with the words quoted above. As for the next section (2.3.2), which is about the properties of drugs, one can also interpret it as a teacher's note-book. 'We know', the physician writes, 'the methods to follow, each with its own result' (...) 'drying, pulverizing, boiling, and such like', 'and I omit most of them', and again at the end of the passage: 'and the like'. Several features are of particular interest in this difficult passage:

- The relation between the first person plural ('we know', ἴσμεν) and the first person singular ('I omit', ἔω), i.e. the same relation we already noticed in the *katastasis* of Perinthus (see *Epid.* 2.2.18: 'we used' vs. 'I do not know' ἐχρώνεθα/οὐκ οἶδ'). Once again, I may add, the first person plural brings to mind a whole community of doctors while the first person singular identifies the individual doctor who writes this account.
- The place of this passage, between the *katastasis* of Perinthus which ends, as we have already seen, with similar remarks of general interest, and the stories of Zoiolos and Empedotimes, which had been announced by the author in the *katastasis* (περὶ ὧν ὕστερον γράψω), see p. 124. I must add that this passage was profusely commented on in ancient times; as early as the very first lines of his commentary, Galen points out a few of his predecessors' opinions (Pfaff, 1934, 265.23-30). In fact, the question whether this passage had to be connected to the *katastasis* of Perinthus or not was much debated, which may encourage us to read the stories of Zoiolos (2.3.3) and Empedotimes (*Hipp. Epid.* 2.3.4) as the very first matter the author dealt with after completing both his *katastasis* and his note-book (end of 2.3.1 and 2.3.2).

Κοιλίην μὲν οὖν οὐκ ἐνεδέχετο οὐδὲν τοῖσι γεύμασιν ἰσάναι, ἀλλὰ παρὰ λόγον ᾤετο ἂν τις ἰήσασθαι συμφέρειν, καίτοι ὑπέρπολλα ἔστιν οἷσι τὰ διόντα ἦν. Τὸ ἐν ψύχει κεῖσθαι ἐπιβεβλημένον, ὡς ἔλκη μὲν τὸ ψυχρόν, θάληη δέ τὸ τοιοῦτον εἶδος ἐκ προσαγωγῆς ἔστι καλόν· καὶ τὸ μηδὲν τῇ φύσει πάθος γίνεσθαι

As to the belly, it was certainly not appropriate to confine the bowels by means of food; it would have been wrong to think it helpful to treat it, although some had excessive amounts of excrement; lying in a cool place, wrapped in a blanket, is appropriate, so as to breathe cool air while the body is kept increasingly warmed; such a method, which proceeds gradually, is excellent;¹⁸ it is also appropriate that no trouble occur in the natural state <of the body>. 5.102.11-16 L. .

οὐδὲν scripsi: οὐδὲ HIR οὐδ' ἐν V || τὸ τοιοῦτον εἶδος cum posterioribus uerbis coniunxi e Gal.(Ar.) || καλόν scripsi *ausgezeichnete* Gal.(Ar.): μάλλον codd.

The author reveals himself to be quite opposed to a therapeutic method which consists in tightening the intestines of the patients by giving them costive food. It is worth remarking that he insistently lays stress on his opposition by putting together negations which reinforce one another (οὐκ ἐνεδέχετο οὐδὲν), and by underlining that what he disagrees with is irrational (παρὰ λόγον). Not content with condemning this method, he recommends and approves (καλόν) another method which is gradual (ἐκ προσαγωγῆς) and consists in warming up the body by wrapping the patient in blankets while allowing him to breathe cool air. In this way, the doctor prevents 'nature' from getting any 'trouble' (καὶ τὸ μηδὲν τῇ φύσει πάθος γίνεσθαι).¹⁹ The therapeutic method recommended here consists in gradually warming the inner part of the body by getting the patient wrapped up and allowing him to sleep, which in turn brings on the cooking of the intemperate matter which

¹⁸ Here I suggest substituting καλόν for μάλλον of the manuscripts, according to Galen's lemma which reads *ausgezeichnete Methode*, as the reading of the manuscripts is likely to come from a misreading of a string in uncials (ΚΑΛΟΝ/ΜΑΛΛΟΝ). This emendation leads us to place a semicolon after θάληη δέ, and to make καλόν agree with τὸ τοιοῦτον εἶδος.

¹⁹ As a Hippocratic physician, the author understands the digestion from the pattern of cooking, which is connected to the heating of the body. See on this topic *Epid.* 6.4.12-16 (92-94 Manetti and Roselli), where the author states that when one is awake the outer part of the body is warmer and the inner part is cooler, and when asleep the opposite: ἐμφανέως ἐγρηγορῶς θερμότερος τὰ ἔξω, τὰ ἔσω δὲ ψυχρότερος, καθεύδων τάναντία.

disturbed the intestines. Thus this method is firmly opposed to the former which involves ingestion of food; moreover, the breathing of cool air avoids excessive warming of the patient's body: one must keep in mind that these therapeutic recommendations concern patients who were, in Perinthus, affected with burning fever.

The doctor expresses his disagreement here for the second time since the beginning of the treatise. In fact, at the end of 2.1.7, he asserts that violent haemorrhages from the nose make many patients recover, as in the case of Heragoras. But, the author adds, 'the doctors did not recognize it', οὐκ ἐγίνωσκον οἱ ἰητροί (5.78.18 L.). Heragoras' example is important: the author does not put forward his general disagreement with the other doctors about a point of doctrine; he merely states that, being himself with other doctors at Heragoras' bedside, he was the only one to recognize that the patient was relieved by a violent nosebleed, while the other doctors did not recognize it, which is underlined by the imperfect tense of ἐγίνωσκον.²⁰

Whatever might have been the extent of the disagreements the doctors had with each other, putting the last two examples on the same footing does not seem inappropriate. If so, the author might have expressed real disagreement with his colleagues. Such disagreement, I may add, occurred concerning a point that was provided by the whole group of doctors for their research programme.

The katastasis of Perinthus as a research programme

As I have pointed out on several occasions, burning fever (καῦσοι) is the only epidemic disease for which we find an account in the whole *katastasis* of Perinthus. I would like to comment briefly here on this particular feature.

It would be useful to compare the semiological information provided by the author not only with that which can be found in the nosological treatises, but also with the descriptions of *Epidemics* 1-3. Such a study,

²⁰ J. Jouanna suggested to me that this clause, which denotes a disagreement with *other* doctors, might also concern a disagreement with doctors outside the group of doctors who came to Perinthus that summer. If so, this example would be less effective than the former one, in which the author's insistence in recommending a gradual therapeutic method can only be interpreted in two ways: either the doctors sometimes argued about certain matters, or (which seems to me less convincing) the doctor tried to be particularly insistent as a teacher. In both cases, as one can see, this implies a community of doctors and disciples.

however, would be beyond the scope of the present paper. To interpret the present passage of *Epidemics* 2, I will reuse a similar comparative study carried out by V. Langholf between the *Epidemics* 1-3 and the nosological treatises.²¹

V. Langholf's conclusions about burning fever (καῦσοι) are as follows (*loco laud.*, p. 155):

1. Symptoms listed in *Epidemics* 1-3: fever, shivering, thirst (or absence of thirst), sleeplessness, nausea, disorder of consciousness, coldness of the extremities, quality of urine and feces, nosebleeding (or absence of it).
2. In *Epidemics* 1 only: perspiration.
3. In *Epidemics* 3 only: coma.
4. In the nosological treatises, symptoms such as shivering, sleeplessness, nosebleeding, perspiration or coma are not found.
5. Symptoms that are found in the nosological treatises but not in the *Epidemics* 1-3: roughness or dryness or darkness of the tongue, expectoration.

The same comparison between *Epidemics* 2.1.3 and the nosological treatises should lead to the same conclusions on every point, with very few exceptions.²² Apart from these exceptions, both of the passages from *Epidemics* 1-3 and 2.3.1 totally agree with each other. Thus V. Langholf's concluding remark about *Epidemics* 1-3 should also apply to *Epidemics* 2.3.1: since symptoms of the καῦσοι that are characteristic in the nosological treatises are omitted in the *Epidemics* treatises (point 5 of the comparison), it is clear that the authors of the *Epidemics* did not try to describe all of the symptoms of this disease, as they considered them well-known by their audience. In fact, the *Epidemics* required professional knowledge on every topic.

In the particular case of *Epidemics* 2.3.1 (*katastasis* of Perinthus), one should even go one step further. As V. Langholf rightly noticed in

²¹ See Langholf (1990) 155-156. V. Langholf takes into consideration the following passages: *Epid.* 1.09 (2.650.9-656.1 L., third *katastasis*); *Epid.* 3.6 (3.80.3-82.17 L.); as to the nosological treatises: *Morb.* 2.2.63 (202 Jouanna), *Int.* 11 (Jouanna 1974, 274-276); *Morb.* 1.29 (84 Wittern; 6.198.6-200.10 L.); *Morb.* 3.6 (71 Potter; 7.122.23-124.17 L.).

²² There were vomitings in *Epid.* 1-3, whereas the καῦσοι of *Epid.* 2.1.3 'were without vomiting', ἦσαν δὲ ἀνήμετοι. We may assume that the author used such a negative expression because he expected καῦσοι to be accompanied by vomiting. Other symptoms not present in *Epid.* 2.3.1: thirst and coldness of the extremities.

the study quoted here, it is not surprising that the symptoms listed in point 4 of the comparison (shivering, sleeplessness, nosebleeding, perspiration, coma) are not found in the nosological treatises: ‘they are all quite unspecific’, V. Langholf adds, ‘for they are likely to appear in the course of various diseases with high fever.’ (*loc. laud.*, p. 155) Under such conditions, the author’s particular interest in observing perspiration in the causus, and the long passage which is devoted to this point are no longer self-evident. The only way to understand properly such an important account of a symptom which is a common one in various diseases is to compare it with another passage of *Epidemics* 2, where sweat is obviously a major interest of the author:

Ἐν καύμασιν ἀνυδρίας, οἱ πυρετοὶ ἀνίδρωτες τὰ πλεῖστα ἐν τούτοις δέ, ἢν ἐπιψεκάζῃ, ἰδρωτικώτεροι γίνονται.

In hot weather when it is dry, fevers mostly occur without sweat; but in such conditions, if there is a rain shower, they present more sweat. *Epid.* 2.1.2 (5.72.8 L.).

Ὑπὸ δὲ τὰς ψεκάδας τὰς γενομένας ἐν τῷ θέρει, ἐπεφαίνετο ἰδρὼς ἐν τοῖσι πυρέσσουσι.

When there were rain showers in the summer, sweat appeared on the patients affected with fever. *Epid.* 2.3.1 (5.100.18-19 L., *katastasis* of Perinthus).

πυρέσσουσι scripsi *bei den an Fiebern Erkrankten* Gal.(Ar.): πυρέττουσι RH Smith πυράιττουσι I πυρετοῖσι V

One can understand the author’s thought as follows: firstly, when providing his account in Perinthus (2.3.1), he notices that there was no rain during the summer, except from a few showers that sometimes occurred;²³ then he adds that sweating in fever occurred at the same time as the showers did, from which one can infer *a contrario* that in the general case (in other words under hot and dry weather as is stated at the beginning of this *katastasis*), the fevers of Perinthus were dry. This is precisely reported as an aphorism in *Epid.* 2.1.2, quoted above, which presents the features of a general remark disconnected from any concrete observation through the use of τὰ πλεῖστα and because of the lack of a location and of a verb.

²³ Littré (5.100.3 L.): (...) τὸ θέρος πᾶν (codd. *der ganze Sommer* Gal.(Ar.): πάνυ coni. Littré) ἄνυδρον μέχρι Πληγιάδων δύσιος.

This particular relationship between accounts of concrete observations and passages of a theoretical nature allow us to better understand research topics that these physicians may have worked on together. However the research programme was certainly not confined to the effect of the weather on perspiration in fevers. Further discussion would characterize these topics as follows: the critical signs,²⁴ the distinction between the signs which occur under the influence of the weather and the ones which come from the disease itself. All these important research topics are extensively reported in the first five sections of *Epid.* 2.1. Moreover, many of them can easily be connected to the present *katastasis* of Perinthus, such as the absence of nose bleeds, as seen (p. 123), during the crisis: the author pays particular attention to this sign as he knows that it can be a critical sign which allows many patients to recover from the disease. As seen again above (p. 131), he emphasizes this point in *Epid.* 2.1.7, even though he has to disagree with other colleagues or doctors.

Thus it is possible to identify the author of *Epidemics* 2, 4 and 6 as a master who shared with several colleagues and pupils a research programme focused on a few topics on which he expresses disagreement and makes recommendations in words that connote a particularly strong and distinguished personality. Furthermore, the only way to understand this long account of very common symptoms is to compare it with other passages of the treatise where the author devotes himself fully to research topics that are to him and his colleagues of the utmost interest. And all these passages which are of theoretical nature, as can be seen by their elliptical wording, imply a community of doctors and pupils. So the purpose of the author is not to give the reader a complete description of diseases and symptoms: his observations were in fact determined by precise research purposes. In this group of doctors and pupils arriving at Perinthus where the personality of the author prevails, medical research is in fact closely related to the needs of teaching.

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²⁴ Sweat is only one of these signs. See the long development of *Epid.* 2.1.7.

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The Physician as Teacher Epistemic function, cognitive function and the incommensurability of errors¹

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Summary

In many Hippocratic writings, the writers' attention is often focused on registering and discussing medical errors. Far from being sporadic and fortuitous, these discussions represent a privileged rhetorical resource in order to produce different effects. The aims of my paper will be: 1) to determine some of the most important contexts in which errors become the object of medical discourse; 2) to distinguish, per exempla, the typologies of errors made object of discourse; 3) to give an epistemological outline which may clarify which functions these discourses have and whether these functions respond coherently to a conscious plan of medical knowledge.

The discussion of errors is a rhetorical strategy used by Hippocratic physicians in relation to a variety of different subject-matters. The aims of my paper will be:

- 1) to determine some of the most important contexts in which errors become the subject-matter of medical discourse;
- 2) to establish, per exempla, the types of errors which are made the subject-matter of such discourse;
- 3) to provide an epistemological outline which may clarify the functions of these discourses, and discuss *whether* these functions respond coherently to a conscious plan of construction of the medical knowledge.

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Before addressing the question in hand, it would be expedient to provide some clarification of a terminological and methodological nature: from a modern epistemological standpoint, a distinction needs to be made between the concept of 'error', understood as the difference between a phenomenon and a (scientific) image which seeks to provide a description and explanation of such a phenomenon, and the concept of 'mistake', understood as the outcome of (occasional) failure to conform with a rule of procedure or as the outcome of a *lapsus* in terms of observation or, more frequently, practice. It is obvious that with regards to the first meaning, error is the '*theory-laden*' product of cognitive activity, emerging through the intersection and mutual distinction of the concepts of 'truth', 'falseness', 'correctness' and the 'applicability' of a scientific proposition.² What is debated in those cases where error is detected within an explanatory framework is the veracity of results obtained by the collective body we know as experimental research, and, from the moment of its detection, responsibility for the error is shared on a parapsychological level by the scientific community which produced it. The meaning of 'mistake' also makes reference to a concrete, circumscribable act, for which a scientist (researcher or physician) is individually responsible. This does not encroach, either in terms of method or of merit, upon the correctness of propositions and explanatory models through which the discipline

² Strictly speaking, the notion of 'error' must be accepted by any epistemology as an integral element of a theory on scientific practice. In fact, 'error', within an experimental logic, consists of a sort of concept-limit in relation to which the researcher must carefully measure and organize his own investigative strategy. It does not constitute a mere potential risk, but the normative principle intrinsic to standard experimental procedure allowing for the acquisition of an increasing degree of accuracy. The production of a descriptive image of reality implies, in fact, the conduction of an experiment which might reveal the causal and quantitative structure of the phenomenon; namely the measurement of its dimensions. All the same, measuring is never the same thing as discovering the real value. The experimental scientist must bear in mind this difference between true values and measured values, or the errors of measurement, and thus take them into account and minimize them. 'Possiamo, dunque definire come "errore" la differenza fra il valore vero di una grandezza e il valore che misuriamo. Solo che non conosciamo affatto né potremo mai conoscerlo, il valore vero. In realtà, possiamo fare solo delle stime, sia relativamente al miglior valore che abbiamo trovato, sia relativamente all'incertezza con cui diciamo che questo è effettivamente il miglior valore. Nella pratica, è proprio riferendoci a questa incertezza che parliamo di errore. Possiamo dunque considerare sinonimi i due termini' (Boniolo-Vidali 1999, 734). A researcher, therefore, must specify the different classes of possible errors, and in relation to each of these must determine which cognitive instruments may allow for the most elevated degree of control over his own standard experimental procedures.

identifies itself. If, in the first case, it is the objective validity of a core of experimental evidence which disappears, in the second it is a question of the accidental and subjective sidetracking of what is recognized as ‘true’ scientific knowledge.³

In this paper I will seek to analyze the Hippocratic writings, addressing with particular caution the distinction between error and mistake, as would normally be expected. I believe that in methodological terms, the use of such distinction as an obvious and natural interpretative category would have been limiting and risky without due consideration being given to its historicity. As a consequence, I have made an analysis of those contexts in which medical discourse becomes a ‘discourse on errors’, leaving aside as far as possible the opposing pair of error/mistake, or at least, on each occasion, checking the writings for conditions of applicability for a similar outline, certain of the need to produce different, even if not necessarily incompatible, interpretative categories. This conviction gave rise to analyses accounting, in turn, for the conditions necessary for conceiving of errors within the Hippocratic writings, in particular, and the conditions for medical discourse on errors more in general.

We therefore return to the writings of the *Hippocratic Corpus*. The first context to be taken into consideration is that of writings, for the purpose of affirming the principles and methods of the *iatrikē* before a mixed audience, composed in the main of cultured laypersons.⁴ This is true in the case of writings such as *Ancient Medicine*, *Nature of Man* and *Sacred Disease*, in which discourse on error takes the form of reasoning known as *confutation*.

In particular, *Ancient Medicine* addresses ‘all who, on attempting to speak or to write on medicine, have assumed for themselves a postulate (ὑπόθεσιν) as a basis for their discussion – heat, cold, moisture, dryness, or anything else that they may fancy – who narrow down (ἐς βραχὺ ἄγοντες) the causal principle of diseases and of death among men, and make it the same in all cases, postulating one thing or two’;⁵ *Nature of Man* in its turn refers to the philosophers and physicians

³ Cf., for example, Winston (1986).

⁴ Amongst the numerous papers aimed at classifying the treatises of the *Hippocratic Corpus* and determining their formal characteristics, see the excellent paper by Langholf (2004).

⁵ Cf. Hipp. *VM* 1.1 (118,1 Jouanna; 1.570 L.). This and the other English translations of the original Hippocratic writings are taken from the Loeb edition.

establishing a monist principle for the constitution of human nature;⁶ whilst in the case of *Sacred Disease*, the polemics is against those who put forward a divine aetiology for epilepsy.⁷ Each of these writings invariably reveal the erroneous nature of such theoretic discourses⁸. Exposure of this sort precedes a resetting of the cognitive value of these discourses; an incorrect theory is, indeed, an ‘empty shell’, both on a logical level, since it is shown to be inconsistent (cf. *Nature of Man* 1;⁹ *Sacred Disease* 1.13) , and on the level of standard procedure, since it generates vacuous and aleatory therapeutics (*Sacred Disease* 1.4-6; *Ancient Medicine* 15)¹⁰. In the aforesaid writings, advocates of these theoretic and aetiological models are brought under attack as if they

⁶ Cf. Hipp. *Nat. Hom.* 1 (164,3 Jouanna; 6.32 L.): “Ὅστις μὲν εἴωθεν ἀκούειν λεγόντων ἀμφὶ τῆς φύσιος τῆς ἀνθρωπίνης προσωτέρω ἢ ὅσον αὐτῆς ἐς ἱητρικὴν ἐφήκει, τούτῳ μὲν οὐκ ἐπιτήδειος ὁδε ὁ λόγος ἀκούειν· οὔτε γὰρ τὸ πάμπαν ἡέρα λέγω τὸν ἀνθρώπον εἶναι, οὔτε πῦρ, οὔτε ὕδωρ, οὔτε γῆν, οὔτ’ ἄλλο οὐδὲν, ὃ τι μὴ φανερόν ἐστιν ἐνεὸν ἐν τῷ ἀνθρώπῳ (He who is accustomed to hear speakers discuss the nature of man beyond its relations to medicine will not find the present account of any interest. For I do not say at all that a man is air, or fire, or water, or earth, or anything else that is not an obvious constituent of a man); *Nat. Hom.* 2 (166,12 Jouanna; 6.34 L.): Τῶν δὲ ἱητρῶν οἱ μὲν τινες λέγουσιν, ὡς ὠνθρωπος αἷμα μόνον ἐστίν, οἱ δ’ αὐτῶν χολήν φασιν εἶναι τὸν ἀνθρώπον, ἔνιοι δὲ τινες φλέγμα (Some of them say that a man is blood, others that he is bile, a few that he is phlegm).

⁷ Cf. Hipp. *Morb. Sacr.* 2 (2,1 Jouanna; 6.364 L.): Τὸ δὲ νοῦσημα τοῦτο οὐδὲν τί μοι δοκεῖ θεϊότερον εἶναι τῶν λοιπῶν, ἀλλὰ φύσιν μὲν ἔχει ἥν καὶ τὰ ἄλλα νοσήματα, καὶ πρόφασιν ὅθεν ἕκαστα γίνεται (But this disease is in my opinion no more divine than any other; it has the same nature as other diseases, from which everything is generated).

⁸ On the adversaries of the author of *Ancient Medicine*, cf., amongst others, Lloyd (1963); Longrigg (1983); on the polemic objective of Polybus in *Nature of Man*, cf. Thivel (1992); on the polemics of the author of *Sacred Disease* against charlatans, see Roselli (1996) and Hankinson (1998); on the theology of *Sacred Disease*, cf. van der Eijk (1990).

⁹ Hipp. *Nat. Hom.* 1 (6.32 L.): ‘Those, however, who give them have not in my opinion correct knowledge. For while adopting the same idea they do not give the same account (γνώμη μὲν γὰρ τῇ αὐτῇ πάντες χρέονται, λέγουσι δὲ οὐ ταῦτά)’.

¹⁰ Hipp. *VM* 15 (137,12 Jouanna; 1.604 L.): ‘I am at a loss to understand how those who maintain the other view, and abandon the old method to rest the art on a postulate, treat their patients on the lines of their postulate. For they have not discovered, I think, an absolute hot or cold, dry or moist, that participates in no other form. But I think that they have at their disposal the same foods and the same drinks as we all use, and to one they add the attribute of being hot, to another, cold, to another, dry, to another, moist, since it would be futile to order a patient to take something hot (ἐπεὶ ἐκεῖνό γε ἄπορον προστάξει τῷ κάμνοντι θερμόν τι προσενέγκασθαι), as he would at once ask: What hot thing? So that they must either talk nonsense or have recourse to one of these known substances (εὐθὺς γὰρ ἐρωτήσει· τί; Ὡστε ληρεῖν ἀνάγκη ἢ ἐς τούτων τι τῶν γνωσσκομένων καταφεύγειν)’.

were the adversaries of medicine. At the same time, they represent a threat against which the *iatrikē* must be defended, but also a useful polemical target against which the identity of writers may be marked and the theoretical core of the *technē* be justified. It is a distinction which admits neither mediation nor the yielding to self criticism, as it implies that the writer constitutes the authoritative party of knowledge, and has to face an absolute lack of correctness within adversaries' reasoning, for which reason their dogmatism and egotism comes under attack.¹¹

Also within the rhetorical framework of *The Art*, recognition of error becomes an instrument for affirming the identity of medicine. In this case, it is a question of transferring the opposing 'correct/incorrect' pairing from the theoretic and aetiological plane onto the behavioural plane. In response to those denying the existence of the *technē*, advancing the excuse of cures achieved without the intervention of a physician, the writer explains in chapter 5¹² that even those forms of behaviour in which the sick engage in an autonomous fashion reveal the existence of the *technē*, in so much as 'what benefited did so because correctly administered, and what harmed did so because incorrectly administered'. Now, the writer continues, 'where correctness and incorrectness each have a defined limit, how could an art fail to be present? (ὅπου τό τε ὀρθὸν καὶ τὸ μὴ ὀρθὸν ὅρον ἔχει ἑκάτερον, πῶς τοῦτο οὐκ ἂν τέχνη εἴη;)' ¹³ Proof of the existence of the *iatrikē*, freed from the statutory weakness of language and rescued from the judgement of some, along with the nihilism of their *αἰσχροπειεῖν*, threatening the epistemological foundations which render knowledge both possible and conceivable, is guaranteed 'ça va sans dire' on the purely pragmatic plane. On the other hand, *iatrikē* is the name of a form of knowledge which shares the same concreteness as things and facts in nature, and on a level of facts, discrimination

¹¹ Cf., for example, Lloyd (1987) 114-123.

¹² Hipp. *De Arte* 5.5-6 (229,4 Jouanna; 6.8 L.).

¹³ On the immediate coincidence between 'correct action' and 'technical action', cf. Pl. *R.* 340d: 'I believe that it is only in a manner of speaking that we declare that the physician, the book-keeper, the master of grammar makes mistakes; since each of these to whom we give such name never makes mistakes. And so, to be precise, since you too hold precision dear, no craftsmen makes mistakes. Indeed, he does not make mistakes so long as his art does not forsake him, in which case he is no longer a craftsman. (ἐπιλειπούσης γὰρ ἐπιστήμης ὁ ἀμαρτάνων ἀμαρτάνει, ἐν ᾧ οὐκ ἔστι δημιουργός)'.

between that which is correct and that which is incorrect is always possible and has its own natural necessity.¹⁴

Moving into the field of surgery the scenario changes considerably. The author of *Fractures/Articulations* shows particular care in the recording and discussion of *hamartēmata*. Such conduct is justified in *Fractures*, chapter 1 (2,46,13 Kühlewein), where we find the following statement: ‘I have to write (ἀναγκάζομαι) a good deal about it because I know practitioners who have got credit for wisdom by putting up arms in positions which ought rather to have given them a name for ignorance’. Here the author explicitly denounces erroneous forms of practice, manifestations of ignorance true and proper,¹⁵ all the more dangerous since they are widespread amongst practitioners, as is made clear in *Fractures* 25 (2,83,13 Kühlewein): ‘I should not have written so much about this had I not known well the harmfulness of this dressing and that many use it (συχνοὺς δὲ οὕτως ἰητρεύοντας)’. It is frequently a question of macroscopic errors of judgement, as in the case of chapter 48 of *Articulations*, in which the use of the *sikua* is discussed, a surgical instrument in the shape of a pumpkin.¹⁶ In these cases, the aim is not the confutation of theories, but rather the description and recording of surgical procedures for precise didactic purposes. In *Fractures*, chapter 1 (2,47,2 Kühlewein), the author emphasizes, programmatically, that the removal of errors constitutes an integral part of his teaching: ‘one must mention those errors of practitioners on which I want to give positive instruction (τὰς μὲν ἀποδιδάξαι) and those errors on which I want to give negative instruction (τὰς δὲ διδάξαι)’. On the same theme, Roselli stresses that ‘riconoscere e far riconoscere gli errori, sostituendo ad una conoscenza

¹⁴ Cf. Hipp. *De Arte* 2.3 (226,4 Jouanna; 6.4 L.): ‘it is absurd to hold that real essences spring from names (ἄλογον γὰρ ἀπὸ τῶν ὀνομάτων ἡγεῖσθαι τὰ εἶδεα βλαστάνειν καὶ ἀδύνατον). For names are conventions, but real essences are not conventions but the offspring of nature (τὰ μὲν γὰρ ὀνόματα φύσιος νομοθετήματά ἐστιν, τὰ δὲ εἶδεα οὐ νομοθετήματα, ἀλλὰ βλαστήματα)’. Cf. Jori (1996) 379-381; in his turn Joly (1956) 200-201, proposes a reading of chapter 2 of *The Art*. which tones down the contrast between weakness on a linguistic level and ‘naturalness’ of the εἶδεα; in this connection, see also Heinimann (1945) 156-158.

¹⁵ Cf. Hipp. *Fract.* 3 (2.50.19 Kühlewein; 3.426 L.): αὐταί τοσαῦται καὶ τοιαῦται αἱ ἀμαρτιάδες καὶ ἄγνοιαί τῆς φύσιος τῆς χειρός.

¹⁶ Hipp. *Art.* 48 (2,183,8 Kühlewein; 4.214 L.): ‘the application of large cupping instruments (μεγάλαι σικύαι), with the idea of drawing out the depressed vertebrae, is a great error of judgment (μεγάλη ἀμαρτὰς γνώμη ἐστίν)’.

precedente un nuovo insegnamento, appare uno degli elementi costitutivi, e non occasionali, del suo manuale'.¹⁷

Now, the innovative element in *Fractures/Articulations* lies in the fact that the practitioner also records those errors committed in the first person. It is not merely a question of denouncing the errors of others, but of learning through reconstructing the genesis of one's own failures. This act can be seen, for example, in *Articulations* 47 (2,182,3 Kühlewein; 4.212 L.), where, stating that an extension of the vertebral column had been attempted without achieving the desired outcome, the writer then sets forth that, 'for those things also give good instruction which after trial show themselves failures, and show why they failed (καλὰ γὰρ καὶ ταῦτα τὰ μαθήματά ἐστιν, ἃ πειρηθέντα ἀπορηθέντα ἐφάνη, καὶ δι' ἅσσα ἡπορήθη)'.¹⁸

We now turn to another, different context; the clinical one found in *Epidemics*, where an identical approach to recording errors and failures is once again encountered, even in those instances in which the author himself is the protagonist. In *Epidemics* 5, chapter 27., for example, where an account is provided of a diagnostic error: a certain Autonomous, deceased following a wound to the head, should have undergone an intervention of trapaning. But, admits the physician who wrote down this record, 'I did not notice (ἐκλεψαν δέ μευ τὴν γνώμην) that the sutures had the injury of the weapon right on them, since it became obvious only later'. Following this, in chapter 28, a case is presented involving a girl with a head wound. In this case, whilst trapaning was indeed carried out, the intervention was too superficial and caused the wound to suppurate (ἐπίρσιθ δὲ οὐκ ἐς τὸ δέον ἄλλ' ὅσον ὑπελείφθη πύον ἐν αὐτῷ ἐγένετο). And again in chapters 29 and 30, we find two cases of delayed cauterization in which the patients died.¹⁸ In these three passages, the verb is conjugated in the aoristic passive form: for this reason, Jouanna and Grmek have considered it

¹⁷ Roselli (2006). Cf. also *Fract.* 25 (2,83,15 Kühlewein; 3.500 L.): 'I should not have written so much about this had I not known well the harmfulness of this dressing [...] and that it is of vital importance to unlearn the habit (ἐπίκαιρον δὲ τὸ ἀπομάθημα)'. On the didactic nature of the recording of errors and the progressive conception of knowledge expressed by the author of *Fractures/Articulations*, cf. also Cambiano (1992) 547-548, Nieddu (1992) 557-558, Di Benedetto (1986) 258-259.

¹⁸ Cf. *Hipp. Epid.* 5.29 (17,23 Jouanna; 5.229 L.): 'The man from Cyrene at Omilus, when he became purulent in the lower belly, was cauterized later than he should have been by thirty days (ἐκαύθη ὕστερον ἡμέρησι τριήκοντα τοῦ δέοντος)'; *Epid.* 5.30 (18,5 Jouanna; 5.229 L.): 'Hecason, in Omilus, was cauterized late like the other one (ὕστερον ἐκαύθη)'.¹⁸

expedient to stress, citing a considerable quantity of ancient comments regarding the passage,¹⁹ the exceptional nature of chapter 27. in which the physician recounts the events in the first person and acknowledges the error as his own.²⁰ In these chapters, where four medical errors are presented in rapid succession, Lloyd has discerned a unique and coherent example of the physician's self-criticism, to which all four denounced errors could be ascribed.²¹

In considering the issue of responsibility for the errors recorded in *Epidemics* 5, however, the identity of the addressee should not be neglected. Indeed, it is evident that a text written for wide circulation and didactic purposes needs to fulfil the author's need for self-legitimization which cannot be compared to the needs of a text comprising notes destined for personal use.

We now must consider that, in recent years, the views of scholars have clearly evolved towards a reappraisal of the intrinsically didactic elements present in the writings and the expository structure of the books of *Epidemics*. Back in 1983, Lonie regarded them as constituting a wealth of annotations written by practitioners as a sort of personal *pro memoria* to back up their daily activities.²² Langholf, in his fundamental study of 1990,²³ although recognizing the personal and informal nature of many of the accounts contained in the books of *Epidemics*, preferred to speak of 'teacher's notes' and *pro memoria* written by the practitioner, in a variety of different formal registers and in response to a range of requirements, as a back up to didactic activity true and proper. Even more radical are the doubts raised by S.

¹⁹ Cf. Cels. 8.4.3: *A suturis se deceptum esse Hippocrates memoriae prodidit, more scilicet magnorum virorum et fiduciam magnarum rerum habentium. Nam levia ingenia, quia nihil habent, nihil sibi detrahunt; magno ingenio, multaque nihilo minus habituro, convenit etiam simplex veri confessio praecipueque in eo ministerio, quod utilitatis causa posteris traditur, ne qui decipiantur eadem ratione, qua quis ante deceptus est. Sed haec quidem alioqui memoria magni professoris ut interponeremus effecit*; cf. also Plu. *De profectibus in virtute*, 82d: τὸν Ἱπποκράτη παράδειγμα ποιεῖται, τὸ περὶ τὰς ῥαφὰς ἀγνοηθὲν αὐτῷ τῆς κεφαλῆς ἐξαγορεύσαντα καὶ γράψαντα; Quint. *Inst.* 3.6.64.

²⁰ Cf. Jouanna-Grmek (2000) 142: 'l'une des caractéristiques de cet auteur est qu'il emploie la tournure passive appliquée au malade de telle façon que le médecin (ou le médecins) qui juge(nt) ou opère(nt) reste(nt) dans l'anonymat. Cette caractéristique rend plus exceptionnel encore le texte du chapitre précédent (c. 27) où l'auteur se met en scène à la première personne et reconnaît sa propre erreur'.

²¹ Cf. Lloyd (1987) 124-125.

²² Cf. Lonie (1983) 145-161.

²³ Cf. Langholf (1990) 240-250.

Humphreys, in a paper published in 1996, with regard to the private nature of the clinical annotations found in *Epidemics*:

I am becoming doubtful about the suggestion that notes made to provide a basis for later reflection only would get into the written tradition for that reason alone, and it seems to me that the case-note form may have been valued as a representation of the doctor at work.²⁴

Thus, with regard to the *Epidemics*, one may suppose a second degree didactic function, in other words a representation of the cognitive process developed by a practitioner in the course of practicing his art. If such a hypothesis is plausible, and a didactic function is acceptable for different levels and formal registers of writings characterized by heterogeneity, it follows that error appears as part of this cognitive process, regardless of whether the writer is recording his own errors or those of other practitioners.

Now, the texts analyzed raise a problem: as we have seen, the management of error in the *Hippocratic Corpus* goes through a wide-ranging spectrum of means and rhetorical strategies. From intransigent confutation and blame, where error is denounced and the authority of the writer is undermined, to the calm recording for didactic purposes of one's own failed attempts, and finally the self-criticism of practitioners recording the deaths of patients following an error of judgement or unsatisfactory interventions.²⁵

In *The Revolutions of Wisdom*, Lloyd devotes a significant amount of attention to an analysis of these highly divergent behaviours.²⁶ The English scholar warns against any simplistic solution to the problem. In the first instance, it is not possible to reduce the inconsistency of these rhetorical strategies simply by appealing to the fact that there is a variation in addressee. In other words, it is not a question of practitioners who, with self-confessed opportunism, flaunt safety when it is the consensus of laypeople which is at risk, less well-informed from a theoretical and methodological perspective, and who describe on the contrary a more problematic relationship between knowledge and error in writings destined for a group of pupils, with whom the need to legitimate oneself through polemics is less pressing and with whom

²⁴ Cf. Humphreys (1996) 3-24. The paper by Alessi can also be consulted in this same volume.

²⁵ An exhaustive list of passages denouncing medical errors is provided by von Staden (1990) 85-88.

²⁶ Cf. Lloyd (1987) 114-135.

theoretical suppositions and the difficulties inherent to medical knowledge may be shared with greater ease.

If this were the case, it would be possible to draw a distinct line of demarcation between ‘dogmatic’ treatises and those writings in which self-criticism is seen to emerge. However, Lloyd points out that this is not the case: dogmatism and self-criticism co-habit in certain treatises, coming together in a context of formal elements shared by both polemic writings and technical treatises.²⁷

Making sense of these behaviours implies the rather more problematic determination of a functional ‘trait d’union’ between treatises with different addressees. In this regard, Lloyd recommends we turn to the concept of ‘persuasion’:

Yet there is a case for saying that, in their different ways and to different degrees, both types of production are exercises in persuasion. That is obvious in the case of the sophistic epideixis. But even those writers who mainly had their fellow-practitioners in mind were also concerned to win their confidence, or at least to make sure that their own credentials were going to be recognised.²⁸

So, the technique of confutation and the acceptance of errors and failures would have been part of a single and complex ‘psychagogic’ strategy, capable of modulating the formal register and the rhetorical structure of the discourse, in accordance with the writer’s needs and the nature of the addressee, and aimed at securing a deeply rooted adherence to the words of the practitioner.

Nonetheless, this interpretation is not sheltered from criticism at all: whilst it is true that it provides, to my mind quite justifiably, a coherent interpretation both of theoretical and of technical writings, I believe all the same that it undermines, possibly quite unintentionally, the supposition that there might be a conscious epistemology at the basis of such rhetorical strategies. Indeed, Lloyd’s examination of the *Hippocratic Corpus* treatises involves their measurement against scientific criteria (potentially) shared by all in so much as they are the fruit of a paradigm commonly (and currently) recognized as valid. This approach led the scholar to argue that there is no real difference in terms of ‘scientific quality’ between opposing theories and practices, and that the main function of rhetoric was the provision of instrumental

²⁷ For a detailed exposition of the analyses carried out by Lloyd, see *ibidem*, in particular 131-133.

²⁸ Cf. *ibidem*, 133.

support needed to compensate the structural and methodological limits of medicine.²⁹

On closer examination, there is the danger of being caught between the Scylla of irreconcilable differences between ‘dogmatism’ and ‘uncertainty’ and the Charybdis of determining a coherent strategy which, whilst providing a sociological justification for certain apparent disparities, does not succeed in clarifying, in an heuristically valid fashion, questions concerning the theoretical roots of such disparities.

In order to avoid running into an interpretative checkmate of this sort, I believe we need to eschew a distortion in perspective to which ‘we’ modern-day scholars risk falling victim, and which comes into being the moment that the concept of *error* is assumed as a neutral concept, devoid of any historical definition, as if it were an ‘object’ which forms of knowledge, distant in both time and space, manipulate in the same manner.

Furthermore, the interpretative framework proposed by Lloyd is based upon the supposition that rhetoric reasoning and scientific discourse belong to distinct spheres of rational activity in response to separate purposes: ‘to persuade’ and ‘to demonstrate’. Now, around a distinction of this sort and from different angles are intertwined the traditional philosophical principles of Antiquity, modern scientific rationalism and the ‘fictional’ vision, if we can call it so, of rhetoric, which has resulted from certain structuralist currents emerging in the second half of the twentieth century.³⁰

For that matter, over the last few years, numerous analyses which have been carried out on the relationship between the structure of reasoning and the doctrinal contents of the treatises of the *Hippocratic Corpus* have taken their point of departure from the substantial acceptance of the polar couples of persuasion/demonstration and rhetoric/science, and have shared the aim of tracing, on a profound level preceding both theory and doctrine, links between truth, discourse

²⁹ Cf. also Lloyd (1982) 35-47 and 65-72, (1991) 19-48 and 59-69 and, more generally on the function of persuasion in Greek philosophy, (1996) 47-92. In defence of the ‘scientific nature’ of Hippocratic medicine, see Bourgey (1953) 251; a well-pondered distinction between rationality and scientificity in the *iatrikē* can also be found in Ayache (1992) 14; see also Thivel (2002). On the *status* of the physician in Ancient Greece, cf. Horstmanshoff (1990) 195: ‘Ancient physicians were above all craftsmen. Nevertheless the more ambitious among them cloaked over the manual aspects of their art and explained away the remuneration for their services with the help of rhetoric’.

³⁰ An example of which is Roland Barthes [see Barthes (1964)], and in which Carlo Ginzburg locates the genetic nucleus of the Nietzschean separation between discourse and truth [cf. Ginzburg (2001) 13-50].

and the power of word, for the purpose of emphasizing the dialectical and frequently conflicting tension between strategies of self-legitimization and the quest for approval, on one side, and the need to determine a thorough and verifiable body of knowledge on the other.³¹

Nonetheless, I believe that the distinction between persuasion and demonstration needs to be explored further, both within the ancient Greek ambit and in connection with contemporary theories of rhetoric. In terms of Greek philosophy, one could affirm that, whilst present in the thought of Plato and Aristotle, such a distinction only crystallized into a true dichotomy with the advent of the modern scientific-rationalist vision. In this sense, it is significant that the persuasion/demonstration couple does not always reveal 'polarity' between fields of manifestations of human reasoning, but rather a 'differentiation' in the degree of certainty and universality of knowledge and discourse as the product of human reasoning. In other words, if, for example, in Plato's *Phaedo*, we encounter a distinct contrast between persuasive (and misleading) *logos*, based on the principle of *eikos*, and *logos* heralding true knowledge, based on demonstration,³² Aristotelian doctrine instead considers the *eikos* as a fundamental 'tropos' of the rhetorical *enthymēma*³³ and as a category of scientific discourse.

Furthermore, during the course of the twentieth century, in parallel with the rhetoric/fiction couple and in pursuit of antithetical objectives, a school of thought inaugurated with the *Traité de l'argumentation* by Perelman and Olbrechts-Tyteca,³⁴ which later involved reflections of a

³¹ In addition to the previously cited studies by Lloyd, due consideration should also be given to Leach (1998), Boger (1998), Lloyd (2002); good analyses of the formal and stylistic characteristics of the Hippocratic writings are provided by Redondo (1996) and Thomas (2003). An interpretation of *Sacred Disease* as a protreptic discourse with sophistic overtones is found in Laskaris (2002). Cf., finally, van der Eijk (1997).

³² Cf. Pl. *Phd.* 92c-d: 'pay attention to which of the two *logoi* you choose: that knowledge is memory or that the soul is a harmony? And he answered; 'Far better the first, O Socrates; indeed the other came to me without demonstration (ἀνευ ἀποδείξεως), in agreement with an *eikos* and an expediency with which most men agree. But I am aware that the *logoi* producing demonstration through the *eikōta* are charlatans, and if one does not look at them carefully they deceive perfectly, both in geometry and all other fields'.

³³ Cf. Arist. *Rh.* 1402b. In the tripartition of deliberative, epideictic and judicial logic, the *enthymēma* constitutes, according to Aristotle, the technical proof of judicial oratory.

³⁴ Cf. Perelman – Olbrechts-Tyteca (1969). On the rationalist claim for the elimination of all ties between rhetoric and knowledge, see in particular pp. 32-33: 'Rationalism, with its claim to completely eliminate rhetoric from philosophy, announced a very ambitious program which would bring about the agreement of minds through universal

more specifically epistemological nature,³⁵ provided a definitive reassessment of relations between demonstrative logic and persuasive discourse, proposing the constitution of a new rhetoric, professedly inspired by the Aristotelian model, innervating scientific knowledge

yielding to rational self-evidence. But the exigencies of the Cartesian method had hardly been stated when Descartes, in the name of these exigencies, made some very questionable assertions. How, indeed, does one distinguish between true and false self-evidence? Does a person suppose that there is really objective validity in what convinces a universal audience, of which he considers himself the ideal representative? [...] It is always hazardous for a writer or speaker to identify with logic the argumentation intended for the universal audience, as he himself has conceived it. The concepts that men have formed, in the course of history, of “objective facts” and “obvious truths” have sufficiently varied for us to be wary in this matter. Instead of believing in a universal audience, analogous to the divine mind which can assent only to the “truth”, we might, with greater justification, characterize each speaker by the image he himself holds of the universal audience that he is trying to win over to his view. Everyone constitutes the universal audience from what he knows of his fellow men, in such a way as to transcend the few oppositions he is aware of. Each individual, each culture, has thus its own conception of the universal audience. The study of these variations would be very instructive, as we would learn from it what men, at different times in history, have regarded as *real*, *true*, and *objectively valid*.

³⁵ Marcello Pera, for example, proposes a rhetoric model for scientific knowledge, in contrast to the *methodological* model typical of the Cartesian notion and the anti-methodological model found in the epistemological anarchism of Feyerabend. Cf. Pera (1994) 11: ‘The methodological model views science as a game between two players: the researcher proposes, and nature – with its ringingly clear “yes” or “no” – disposes. In the counter-methodological model, the situation is the same, the only difference being that nature’s voice is so weak that it is drowned out by the researcher’s, who ultimately becomes nature’s ventriloquist, providing the desired answers. The dialectical model is different; it requires three players: a proposer who ask questions, nature that answers, and a community of competent interlocutors which, after a debate hinging on various factors, comes to an agreement upon what is to be taken as nature’s official voice. In this model nature does not speak out alone. It only speaks *within* the debate and *through* the debate’. Cini (1994), whilst sharing the general outlook, reveals, to my mind correctly, an exaggerated schematism in the theoretic model proposed by Pera; as a consequence, I prefer to replace the concept of ‘rhetoric’ (which is too generic and insufficiently characterizing) with that of ‘metatheoretic language’. Cf. p. 215: ‘La retorica è uno strumento del dibattito, mentre il linguaggio metateorico, o programmatico, è uno dei due livelli del discorso scientifico. Questo vuol dire che mentre nel primo caso si assume che, una volta chiuso il dibattito, lo strumento viene messo da parte e il contributo riconosciuto valido entra a far parte della scienza, perdendo, per così dire, il ricordo della fase dibattimentale, nel secondo caso si riconosce che il nuovo contributo, una volta accettato, mantiene, nella sua formulazione, traccia dei criteri metateorici che sono stati adottati per convalidarlo. In altri termini, nel modello che potremmo chiamare linguistico è l’analisi del discorso scientifico stesso che porta all’identificazione dei fattori metateorici che lo caratterizzano’.

and formulating enunciative rules in which the need for 'truth' and the need for 'approval' are conceived through the relationship of synthesis and co-determination (without ever cancelling each other out through the process of perfect identification).

Furthermore, in connection with the statute and management of error, it is possible to determine a distinct lack of homogeneity, within the dialectic between ancient and modern writers, in the case in point between Hippocratic treatises and scientific method. Confutation in the Hippocratic writings always has the effect of excluding a theoretic proposal from the 'authentic' body of medical knowledge. But that is not all. It also constitutes the means of definition of the theoretic and doctrinal identity of the *iatrikē*. The issue becomes more complex when dealing with incorrect practice. In this case, certain passages document 'good' errors, producing new knowledge, whereas others record detailed descriptions of 'bad' errors, sign of an inadequate degree of competence. In both cases, however, Hippocratic practitioners insist upon the intrinsic (and invaluable) didactic function inherent in the recording and discussion of errors.

Nowadays, within modern experimental disciplines, the series of operations through which the management of errors is made one of the *principia individuationis* of scientific knowledge are of a completely different nature.

The results of scientific investigation remain valid, or in other words continue to be considered 'true', until proved otherwise by the results of subsequent investigations. That which is proved to be false is no longer preserved, or at least, not intentionally. 'Gran parte del contenuto del sapere scientifico', observes Pietro Rossi, 'diviene, prima o poi, obsoleto e cessa di costituire un termine di riferimento per il lavoro ulteriore. La ricerca in atto può prescindere; nei suoi confronti l'ignoranza è ammessa, anzi è data per scontata'.³⁶ In short, on both a theoretic and pragmatic level, knowledge which is recognized as invalid and thus obsolete is immediately removed from the body of knowledge to be transmitted, becoming, so to speak, good for the archives only. In reality,

obsolescenza non significa espunzione dal corpo del sapere: i risultati dimenticati, confinati nel chiuso delle biblioteche scientifiche, mantengono pur sempre la loro validità, e sono riproponibili qualora se ne presenti la necessità. L'obsolescenza non incide sull'appartenenza al sapere scientifico,

³⁶ Cf. Rossi (1990) 354-355.

ma sulla conservazione di questo; essa determina uno stato di 'latenza rammemorativa'.³⁷

Essentially, the management of error by modern science only rises to a position of epistemological dignity, so to say, within the realm of experimental investigative procedures: where it is neither impaired nor is the existence of a frame of generally recognized criteria ignored,³⁸ the detection of the erroneousness of a piece of knowledge does not undermine its scientific nature, but merely its expendability in relation to future research and thus its didactic usefulness as part of the training process of researchers. On the other hand, individual error, a mistake or failure to conform with a rule of procedure or an enunciative norm, does not possess any real meaning either from an epistemological point of view, even less so from a didactic standpoint since it merely represents an accidental fact, an episode deviating from the logic of scientific concerns.

The arguments I have put forward so far suggest, to my mind, the need to reformulate the question which we have to deal with: we need to understand whether, from the standpoint of the authors of the *Hippocratic Corpus*, a positive difference existed between errors generated within cognitive and pragmatic domains unconnected with the *iatrikē* and errors included in the rational framework of the *technē*, or indeed whether there was a fictitious difference, artificially constructed through specific verbal strategies. Furthermore, we also need to understand which possible theoretical and methodological assumptions allowed for the determination and justification of such a difference. Posing the problem in terms of logic of medical knowledge and of 'rationality' of the standard procedures is the only way in which we can possibly create the conditions for a coherent interpretation of rhetorical strategies which, to our eyes, appear highly contradictory and verge on the incompatible.

³⁷ *Ibidem*.

³⁸ Criteria which Cini (1994) defines as the 'metacriteria' of a scientific discipline. Cf. p. 210: 'la scelta fra proposte alternative di sviluppo di una data disciplina viene sempre compiuta dalla comunità dei suoi cultori sulla base di metacriteri esterni alle regole che ne definiscono il linguaggio formalizzato. Di conseguenza, una cosa è giudicare se un determinato contributo soddisfa alle condizioni di validità che discendono dall'insieme delle regole formalizzate che caratterizzano una data disciplina in un dato momento. Altra cosa è giudicare se una determinata proposta di mutare quelle regole è accettabile alla luce di metaregole che fissano i caratteri considerati irrinunciabili, in quel dato momento, per quella disciplina'.

Firstly, I propose a reversal of perspective: it appears to me that theoretic-polemic and technical writings both unfold within a common horizon established, in the first instance, by the need to create, through channels of communication, forms of interaction between those parties whose adherence to the knowledge in question is ensured by its comprehension. Obviously, here we are standing before persuasive strategies; what is not obvious, however, is the fact that persuasion constitutes the ‘purpose’ of communication. In fact, the supposition that persuasion might, within the contexts discussed so far, play an ‘instrumental’ role as regards to an overall cognitive strategy, appears to me as one which is heuristically fruitful.

This strategy, which is easy to accept in relation to a didactic piece of writing, is also found in relation to all possible referents of medical discourse: for example, in a passage from *Sacred Disease* (chapter 1.8)³⁹ the author announces that he will explain (διδάξω) the reasons for which all those ascribing epilepsy with divine aetiology must be viewed as godless. In reality, ‘per dimostrare ad un pubblico di non specialisti⁴⁰ che la malattia è in tutto e per tutto come le altre, l’autore [...] fornisce un’esposizione ampia, una delle più dettagliate a nostra disposizione, della logica che presiede alla diagnosi, all’interpretazione dell’eziologia e alla terapia delle malattie’.⁴¹

In *Regimen 3* (chapter 69) ., the exposition of the prodiagnostic model is preceded by a statement by the author in which he claims to ‘have discovered a regime which draws as close as possible to complete truth, for those having the means and having understood (οἷσι διέγνωσται) that nothing is of any value in the absence of health’. The author will put forward his discovery, going ahead with his argument because, he writes, ‘this discovery, considerable for me as the person to

³⁹ Cf. Hipp. *Morb. Sacr.* 1 (1,8 Jouanna; 6.358 L.): Καίτοι ἔμοιγε οὐ περὶ εὐσεβείης δοκέουσι τοὺς λόγους ποιεῖσθαι, ὥς οἶονται, ἀλλὰ περὶ δυσσεβείης μᾶλλον καὶ ὥς οἱ θεοὶ οὐκ εἰσὶ τό τε εὐσεβὲς αὐτῶν καὶ τὸ θεῖον ἄσεβές ἐστι καὶ ἀνόσιον, ὥς ἐγὼ διδάξω (Yet in my opinion their discussions show, not piety, as they think, but impiety rather, implying that the gods do not exist, and what they call piety and the divine is, as I shall prove, impious and unholy).

⁴⁰ Jouanna (2003) XII, holds a different view, precisely by virtue of references to the vocabulary of demonstration and teaching and the detail of anatomic-physiological explanations, believing that the writing was originally a course thought for students and subsequently published.

⁴¹ Cf. Roselli (1996) 17.

have made it, is useful for those who understand it (ὠφέλιμον δὲ τοῖσι μαθοῦσιν)⁴².

On the other hand, the cognitive function of the author's *logos* is also made explicit in *The Art*. Although there is no agreement as to his exact identity (he may have been a medical practitioner or a sort of sophist interested in medical matters),⁴³ what is certain is that he meant to mirror, on a discursive level, the solidity and factual concreteness of the *iatrikē*. In particular, one notes in chapter 9, 'the scope of medicine, the nature of medical things and how they are to be judged, my discourse has or will set forth (τὰ δὲ ὁ παρῶν λόγος)' .⁴⁴

It could be said that a medical practitioner may be viewed as such if, in relation to all his referents and fields of operation, he is capable of triggering a knowledge producing process. It could be said, furthermore, that the *iatrikē* exists, and is expressed through the *logoi*, since this is a form of communicable knowledge, and one which may become the subject-matter of teaching. *The Art* (chapter 2.2)⁴⁵, an example of meta-technical discourse for the purpose of justifying the *iatrikē*,⁴⁶ contains a passage affirming that 'reality is known when the arts have been already revealed (γινώσκεται τοίνυν δεδιδαγμένων ἤδη τῶν τεχνέων)' .⁴⁷

This is the same as saying that also experience in the phenomenal field of the *iatrikē*, always accessible on an occasional level, is

⁴² Hipp. *Vict.* 3.69.1 (77,16 Joly; 6.604 L.).

⁴³ For a list of scholars ascribing the composition of *The Art* to a sophist, cf. Fabrini-Lami (1979); see also Jori (1985); for the ascription of the treatise to a physician, cf. Bourgey (1953) 117, and lastly Jouanna (1988) 179-183.

⁴⁴ Hipp. *De Arte* 9.1 (234,10 Jouanna; 6.16 L.).

⁴⁵ Hipp. *De Arte* 2.2 (225,15 Jouanna; 6.5 L.).

⁴⁶ I take the definition of 'meta-technical discourse for the purpose of justifying the *iatrikē*', to my mind one of extraordinary heuristic value, from Jori (1996) 104-108, to which I refer for a detailed and reasoned exposition of the *status quaestionis* about chapter II of *De arte*.

⁴⁷ Cf. Jori (1996) 142: 'egli [l'autore] si richiama al problema, ampiamente dibattuto dai sofisti, dell'insegnabilità quale carattere costitutivo delle *technai*, ma lo affronta in una prospettiva affatto peculiare. Nella sua ottica, l'apprendimento di un'arte sembra costituire essenzialmente il processo della riappropriazione in forma sistematica, da parte del singolo, di quanto, pur già da sempre presente nel quadro dell'esperienza, rimane tuttavia confinato, al livello atematico della sensibilità, in una condizione di episodicità, e può acquistare un significato davvero universale solo nel caso in cui venga razionalmente ricostruito secondo connessioni ben definite. Grazie alla tematizzazione tecnica, risulta possibile organizzare quel tessuto percettivo al quale l'uomo, di fatto, sempre attinge nella dimensione della sua quotidianità'. On the teachability of the *technai* cf. also Cambiano (1971) 142-169.

structurally transformed into knowledge thanks to the cognitive filter offered by instruments of the *technē*. Moreover, medicine is the discovery of man, and its learning cannot be conceived in terms of a totally autonomous experience, but rather as the fruit of interaction between parties within the tradition. *Ancient Medicine* identifies the *ratio* of progress made by medicine in the process of cooperation between learning and discovery, between adhesion to a method and the integration of results:

Medicine has long had all its means to hand, and has discovered both a principle (ἀρχή) and a method (ὁδός), through which the discoveries made during a long period are many and excellent, while full discovery will be made, if the inquirer be competent, conduct his researches with knowledge of the discoveries already made, and make them his starting-point. Hipp. *VM* 2.1 (119,12 Jouanna; 1.572 L.).

It is clear that the existence of this tradition should not be rejected, but on the other hand, knowledge progresses because there are still discoveries to be made and absolute correctness is difficult to attain.⁴⁸

The need to integrate transmitted knowledge on the basis of circumstance is equally applicable within the dietetics tradition, from which the theoretic framework of *Ancient Medicine* derives, and within the research of the *pharmaka*: indeed, in this connection, we can mention two chapters of affections, namely, chapter 15, which examines pharmacopoeia, and chapter 46 on dietetics⁴⁹ in *Affections*, where a certain freedom in the autonomous determination of remedies is granted, should these be considered more appropriate than those recommended by the writer. Acknowledgement of a certain degree of autonomy in the determination of remedies is in fact even more marked

⁴⁸ Cf. also Hipp. *VM* 12.2 (132,15 Jouanna; 1.596 L.): 'I declare, however, that we ought not to reject the ancient art as non-existent, or on the ground that its method of inquiry is faulty, just because it has not attained exactness in every detail (εἰ μὴ ἔχει περὶ πάντα ἀκρίβειαν)'.

⁴⁹ Cf. Hipp. *Aff.* 15 (6.224 L.): 'if the pain moves so that it is at one time in one part of the cavity and at another time in another part, wash with copious hot water when the patient is without fever, and for the pain have him drink what is recorded in the *Medication Book*, or whatever else you think suitable (ἢ τῶν ἄλλων ὃ τι ἂν σοι δοκέῃ)'; *Aff.* 46 (6.254 L.): 'after gruels, give food to patients; then have them drink fragrant wine. Before the foods and drinks, or gruels... and after that whatever you think suitable (καὶ μετὰ ταῦτα ὃ τι ἂν σοι δοκέῃ)'.

in a treatise such as *Affections*, the only one of the treatises in the *Corpus* to be openly conceived as a practical manual for laymen.⁵⁰

The practitioner, as the ‘actor’ and ‘efficient cause’ of a cognitive process, cannot act, however, as though his own knowledge were not subject to a certain degree of bias.⁵¹ On the other hand, one of the marks distinguishing those claiming to operate within the field of the *iatrikē* without possessing the necessary intellectual instruments is precisely the inability to give a logical coherence to their errors in relation to their own cognitive experience.

An example of this can be found in *Regimen* 4 (chapter 87), where the author, discussing those who interpret dreams of divine origin through the use of unfailing instruments of a specific *technē*, observes that these men even pass judgement on those dreams through which the soul announces the affections of the body:

Sometimes they guess correctly, sometimes they get it wrong (τὰ μὲν τυγχάνουσι, τὰ δὲ ἀμαρτάνουσι), and in neither of the two cases do they understand why, neither when they grasp the sign nor when they fall into error. These men advise the taking of precaution, but they do not explain (οὐ διδάσκουσιν) how this is to be done, they exhort (κελεύουσι) instead prayers to the gods. Hipp. *Vict.* 4.87.1 (98,1 Joly; 6.640 L.).

The author highlights the disastrous outcome which results from the superimposition of two different orders of technical knowledge: one relating to the interpretation of dreams of a divine nature, the other to dreams of a ‘psychosomatic’ nature. The forced extension of a single explicative framework to cover two different dream typologies produces a condition of *atechnia*, the most serious symptom of which is not, in my view, the fact that one sometimes errs, but the fact that one never understands the reason behind either success or error. On the other hand, a cognitive relation with the patient which is not limited to vehement exhortation and even less to authoritarian command, may be generated in those cases in which the practitioner is able to identify the degree to which his judgement, his actions and the reality of the

⁵⁰ In this volume, Perez Cañizares forwards decisive evidence in support of the thesis suggesting that it was in fact the figure of the *idiōtēs* to be the addressee of the treatise. For a detailed analysis of the *status quaestionis* in connection with the addressee of *Affections*, see the same pages of Perez Cañizares.

⁵¹ The problem is how to manage the tension between the practitioner’s aspiration to determine universal norms and the need to deal with the individual specificity of each clinical history. Cf. von Staden (2002).

circumstance in which he is called to intervene, actually correspond, and in those cases where he is able to propose himself as the active agent of knowledge, capable of elaborating strategies of rational control over his own procedure and of recommending similar strategies which might be understood by the patient.

Moving our line of reasoning onto a didactic level, neither is the process of teaching/learning of medicine described as a mechanical transmission of knowledge. Some writers claim to supplement their own exposition with an 'example' which might clarify the theoretical, doctrinal and methodological coordinates within which autonomous medical subjectivity might be developed. This is verified in *Airs waters places* (chapter 24) at the end of the exposition, when the author invites his addressee: 'deducing from these cases, consider the rest, and you will not err (οὐχ ἀμαρτήσῃ)'.⁵² In a similar fashion, *Prognostic* (chapter 25) recommends, to whom might wish to make predictions, to conduct a careful examination and commensuration of the *sēmeia*, 'as is written here in general and for example for urine and sputum'.⁵³

The system of physiological variables is so very entangled since the experience and teaching of a practitioner may reconstruct its own path in an abstract manner. In connection with such a system of variables, the correctness and erroneousness of medical judgements and actions are not given facts in themselves, originating viceversa in the individual response of the *phuseis*. For this reason, the author of *Places in Man* (chapter 41),⁵⁴ although claiming for the *technē* the definitive exclusion of *tuchē* from his own field of operation, realizes that 'it is not possible to learn medicine swiftly (ἱητρικὴν οὐ δυνατόν ἐστι ταχὺ μαθεῖν διὰ τόδε)', since the existence within it of a knowledge established once and for all is an impossibility. Whereas within other *technai*, when carrying out the same operation, one has the certainty of the uniformity of effects, medicine 'now and in every case, does not do the same thing, but does opposite things towards the same individual, and moreover things which are opposite amongst themselves'. This is like saying that the fact of the practitioner acting correctly totally removes, *at present*, the possibility of erring precisely because the *iatrikē*, in the past,

⁵² Hipp. *Aer.* 24.10 (250,8 Jouanna; 2.92 L.).

⁵³ Cf. Hipp. *Prog.* 25 (2.188 L.): Χρή δὲ τὸν μέλλοντα ὀρθῶς προγινώσκειν τοὺς περιεσομένους καὶ τοὺς ἀποθανουμένους, ὅσοις τε ἂν μέλλῃ πλέονας ἡμέρας παραμένειν τὸ νοῦσημα καὶ ὅσοισιν ἂν ἐλάσσους, τὰ σημεῖα ἐκμανθάνοντα πάντα δύνασθαι κρίνειν, λογιζόμενον τὰς δυνάμεις αὐτῶν πρὸς ἀλλήλας, ὥσπερ διαγέγραπται περὶ τε τῶν ἄλλων καὶ τῶν οὖρων καὶ τῶν πτυέλων.

⁵⁴ Hipp. *Loc. Hom.* 41.1 (70,6 Joly; 6.330 L.).

completed its own process of constitution recognizing the extremely high degree of uncertainty⁵⁵ and variability of its own conditions of intervention.

Correctness of action and speech is defined by the biological specificity of the subject-matters of knowledge, namely the human body and life⁵⁶. Now, a recurring principle in some of the treatises of the *Hippocratic Corpus* is that life itself is 'naturally' exposed to the risk of error. One might say that in life, error accompanies truth, as G. Canguilhem suggested in his studies of history and epistemology of life sciences.⁵⁷ Life as a process, life understood as *phusis*, is exposed to error, since life 'goes beyond errors, it learns from them and through error life has come to the human being, in whom the conscious fallibility of knowledge continues the fallibility of life'.⁵⁸ In *Epidemics* 7, chapter 17.1 (5.390 L.), a man from Balea, 'having committed all manner of errors (πάντα ἡμαρτηκώς)' in his lifestyle, is taken ill and dies on the twentieth day; in chapter 53 (5.423 L.), the writer relates the case of a woman afflicted by phrenitis with symptoms of a

⁵⁵ For a epistemologically founded definition of the link between the notions of 'uncertainty' and 'error', cf. note 1.

⁵⁶ See, for example, Hipp. *Loc. Hom.* 2.1 (39,23 Joly; 6.278 L.): 'the nature of the body is the principle of discourse in medicine (φύσις δὲ τοῦ σώματος, ἀρχὴ τοῦ ἐν ἱατρικῇ λόγου)'.

⁵⁷ Cf. Canguilhem (1998) 237-249.

⁵⁸ Porro (1998) XLVII. Modern biology has developed, within the field of studies into living systems, the concept of error-friendliness, including the ideas of 'production of errors' and 'tolerance of errors' and the friendly cooperation between these two aspects for the purpose of exploring new opportunities. As Ernst and Christine von Weizsacker write (1988) 129, 'in questa cooperazione si colloca l'utilizzazione degli errori, che è una caratteristica assolutamente generale di tutti i sistemi viventi, indipendentemente dal livello gerarchico che si voglia prendere in esame [...] le parole chiave della produzione degli errori sono le mutazioni, il moto e la curiosità. La ridondanza, l'organizzazione cellulare o modulare, i meccanismi di isolamento fisiologico del genere dei vasi sanguigni e della barriera ematoencefalica, la rigenerazione e la guarigione e, naturalmente, la stabilità strutturale sono invece le parole chiave per quella tolleranza degli errori che deve necessariamente accompagnare la produzione di errori. Ma l'apprendimento, o l'utilizzazione degli errori, è qualcosa di più di un'addizione meccanica della produzione degli errori e della tolleranza degli errori. In tutte le situazioni in cui cooperano i due processi, essi diventano inestricabilmente intrecciati. In definitiva, è difficile distinguere se gli errori siano prodotti attivamente o siano soltanto tollerati, e se essi siano protetti e conservati accuratamente, oppure eliminati finché non si riesca a confinare i danni entro livelli tollerabili. Queste situazioni di cooperazione amichevole fra la produzione degli errori e la tolleranza degli errori sono situazioni creative, situazioni in cui hanno luogo l'apprendimento reale e l'evoluzione reale. È questo il meccanismo grazie al quale i sistemi possono affrontare il futuro, che è aperto e ignoto'.

psychosomatic nature. On the fifth day, by means of what might be called false movements, she scratched herself on the face (ἀμαρτάνουσα τῇσι χερσὶ πραγματευομένη). In *Aphorisms* 1.5, on the other hand, it is explained that the sick are mistaken in following lighter and more strictly regimented lifestyles, and any possible errors are accompanied by more serious consequences than those experienced when following more abundant diets.⁵⁹

Other passages in the *Hippocratic Corpus* acknowledge explicitly that error has not been eliminated and neither is it completely eliminable, not even from the operational domain of the *technē*. The author of *Ancient Medicine* (chapters 9.3-4) states, for example, that ‘it is necessary to conduct an examination with such attention so as to make few mistakes in one sense or another (ὥστε σμικρὰ ἀμαρτάνειν ἔνθα ἢ ἔνθα)⁶⁰; and I would praise highly the practitioner who *makes few mistakes* (τὸν σμικρὰ ἀμαρτάνοντα) since exactitude is hard to find’.⁶¹

I believe one might say that the *technē* and the *phusis anthropinē*, which the author of the first book of *Regimen* (chapter 12.) wishes to bind together in a relationship of similarity (τέχνησι γὰρ χρεώμενοι ὁμοίησιν ἀνθρωπίνῃ φύσει οὐ γινώσκουσιν), share, on different but interdependent levels, the irreducibility of error and the normative character of limit.⁶² A practitioner who makes mistakes is only one

⁵⁹ Cf. Hipp. *Aph.* 1.5 (4.462 L.). Cf. also Hipp. *Acut.* 39 (52,12 Joly; 2.306 L.), Hipp. *Prorrh.* 2.4.6 (9.14 L.); *Prorrh.* 2.3.12 (9.10 L.) *Prorrh.* 2.3.40 (9.14 L.).

⁶⁰ The same notion of error as a deviation, through excess or defect, from a middle course, is found for example in Hipp. *Liqu.* 1.16 (6.120 L.), where, however, greater confidence is expressed in the possibility of a physician recognizing and maintaining the ‘right’ measure in his acts (τὸ μέτριον ἐκάστω... οἶδαμεν βασανίζειν... ἐξ ὑπερβολῆς ἐφ’ ἐκάτερα, ὡς ἀφοῖν μὴ ἀμαρτάνει).

⁶¹ Cf. Hipp. *Aff.* 25 (6.236 L.): ‘by investigating in this way and seizing upon the beginning of disease, you will err least (ἥκιστ’ ἂν ἀμαρτάνοις)’; see also Hipp. *Int.* 15 (7.204 L.) where, warning against the possible baleful effects of an erroneous intervention, its possibility is implicitly acknowledged.

⁶² The same tendency to correlate the processes of natural selection and the processes of knowledge production has characterised, from the last century onwards, evolutionist biology and epistemology. Nonetheless, according to Popper (1982), we should speak of creative evolution, where organisms, rather than passively undergoing casual mutations and natural selection, actively seek a more favourable environment or create one artificially. This occurs through a process of trial and error, the same process which, according to Popper, governs the growth of pre-scientific knowledge. A different view is held by others, amongst whom evolutionist biologists, who believe that evolution can be understood as a process of progressive differentiation within species and between different species, and as the outcome of the casual mutation of genes

possible cause of therapeutic failure. On the other hand, the practitioner would not fail to achieve the objective of the treatment if the possibility of making mistakes, or simply failing, were not written in the nature of things. Let us consider, for example, *Affections* (chapter 13):

If, when the physician treats correctly, the patient is overcome by the magnitude of his disease, this is not the physician's fault (οὐχὶ τοῦ ἱητροῦ ἄτη ἢ ἀμαρτίη ἐστίν). But if, when the physician treats either incorrectly or out of ignorance, the patient is overcome, it is his fault (ἐὰν δὲ μὴ θεραπεύοντος ὀρθῶς ἢ μὴ γινώσκοντος ὑπὸ τῆς νόσου κρατέηται, τοῦ ἱητροῦ).⁶³

In the light of what has been argued so far, I believe we might recognize a form of behaviour which is widespread within the *Corpus*, according to which the management of error fulfils a structural function which is not resolved on the level of rhetoric and within which rhetoric is positively integrated.

selected through interaction with the environment: cf. Thompson (1989) and Azzone (1991). In a similar fashion, the neurobiological studies of Edelman [cf. Edelman (1995)], have expounded the structuring mechanisms of the nervous system, using an 'interactive' model in which the decoding processes of the genetic programme, 'stochastic' processes within the neuron circuits and interaction with the environment all cooperate together. This leads to a redefinition, both in a biological and neurobiological plane, of the concept of error, which is no longer conceivable as an event intrinsically deviant from a strictly defined programme. See the remarks put forward by Azzone (1991) 99, on evolution and oncogenesis: 'Le mutazioni del patrimonio genetico consentono l'evoluzione dei viventi. Ma le mutazioni sono anche la causa della formazione delle cellule tumorali. Il legame tra mutazioni ed evoluzione rende non appropriato l'uso del termine 'errore' per definire un evento, la mutazione, che produce la comparsa di una cellula tumorale. Il motivo è che la natura dell'evento che causa il tumore non è diversa da quella che è alla base di tutto il processo evolutivo. Sarebbe preferibile allora definire caso piuttosto che errore quell'evento che, unito al processo di selezione, è la condizione dell'evoluzione biologica'.

⁶³ Cf. Hipp. *Aff.* 3 (6.210 L.) where the author emphasizes that 'there is the risk of failure rather than success (κίνδυνος ἀμαρτάνειν μάλλον ἢ ἐπιτυχάνειν)' if the patient is not examined from the onset of the disease. Clearly, the need to follow the development of a disease from its onset contains an element of unforeseeability over which the physician only has partial control, since he does not always have the possibility of overseeing a patient from the first manifestation of symptoms. The meaning of *hamartanein* is interesting, to my mind oscillating with indescribable ambiguity, between the meaning of 'to fail' (with regards to the outcome of the treatment) and that of 'to make mistakes' (in the technical sense of therapeutic procedure), as for that matter is also the case with *epitunchanein*, 'to have success', 'to achieve a goal' and also 'to score a bull's-eye'.

Here I am referring to an 'epistemic function', by virtue of which medical knowledge consistent with the nature of its subject-matter is founded, in which error constitutes an intrinsic limit on knowledge and, moreover, an intrinsic limit on life.

Furthermore, I am referring to a 'cognitive function', by virtue of which learning becomes a process of active appropriation and exploration of the ways and resources of medicine.

What remains to be understood is on the basis of which distinct criterion a practitioner who makes mistakes may continue to define himself as such, unlike other parties whom, by virtue of theories and practices judged as erroneous, are pushed to the margins of the *technē*.

We should, therefore, reconsider the cases of radical confutation in the light of arguments put forward thus far: the authors of *Ancient Medicine* and *Nature of Man* confute reductionist and monist theories on the basis of the fact that a physiology informed by principles of this sort is, from a medical perspective, an authentic epistemological *monstrum* which results in annulling the existence of individual variables, in refusing to acknowledge any principle of complex causation, in hardening the phenomenon of life, in rendering inconceivable the very possibility of error (since a monist physiology should be followed by monist aetiology and therapeutics). The author of *Sacred Disease*, on his part, confutes the divine aetiology of epilepsy, arguing the godlessness of magicians and purifiers and their lack of scruples in deceiving laymen. Such men dictate instructions (chapter 1.5) 'on divine grounds, as if they possessed higher knowledge, putting forward other reasons in such a way that, should the patient recover his health, they are esteemed for their abilities, and if he should die, their defence is guaranteed'.⁶⁴

In *Fractures* (chapter 1), the experimental arm bandaging used by *sophizomenoi* practitioners, in other words practitioners striving, should we say, beyond the call of duty, comes under criticism. In this instance, the author of *Fractures* cannot be ascribed with behaviour of a conservative nature towards tradition. On the contrary, he is a practitioner whose aim is that of developing the art, devoting to this purpose a significant part of his practice and teaching, even if at the cost of error. A similar argument cannot be forwarded for the *sophizomenoi* practitioners, who commit errors in a gratuitous fashion,

⁶⁴ Hipp. *Morb. Sacr.* 1 (1,5 Jouanna; 6.356 L.).

spurred on by their wish to astound laymen and their satisfaction, as an end in itself, of employing unusual practices.⁶⁵

On the basis of examples such as these I believe it fitting to conclude that, in the efforts of medical discourse to define and provide self-definition, a certain principle of incommensurability of error is at work, expounded on the plane of an ethic of cognition prior to its being burdened with an epistemological statute. There is a certain group of practitioners, or those presumed as such, healers and *physiologoi*, whose theories and practices display a considerable lack of responsibility towards other parties involved in the *iatrikē*, namely the sick and all other possible referents of the practitioner's *logos*, pupils and laymen.⁶⁶ These people make mistakes without either understanding nor admitting their errors, through unscrupulousness, sometimes through bad faith and sometimes through the inconsistency of theoretical constructs in which the complex and fallible aspects of medical knowledge are irreparably pushed to the margins.⁶⁷

On the other hand, there are errors which, once committed, produce knowledge, providing they are honestly acknowledged and rationally reworked, and on this basis a practitioner can then reconstruct the sense of a physiological phenomenon and therapeutic experience. One may 'be right', in other words, without actually 'telling the truth', and being right is not so much a question of subjugating oneself to the rules of knowledge but rather permanently exposing oneself to the risk of error and therefore also of rectification. It is a question of representing the development process of medical knowledge in a dynamic key, rather than one which is mechanically cumulative and self-correcting. One

⁶⁵ Cf. Lonie (1983) 160. Cf. Hipp. *Mul.* 1.62 (8.126 L.) where reference is made to physicians who make mistakes since they fail to inform themselves correctly on the cause of the disease (οὐκ ἀτρεκέως πυνθανόμενος τὴν πρόφασιν τῆς νόσου), and in their treatment of gynaecological pathologies adopt the same criterion used in the treatment of diseases in males.

⁶⁶ Cf. Hipp. *Acut.* 44 (2.316 L.): 'it is shameful (ἀεικὲς) to fail to understand that the patient is weak as a result of fasting, and aggravate him with the regime'. On the notion of *eikōs* cf. Cozzo (2001) 202.

⁶⁷ Jackie Pigeaud, in connection with rationalist polemics in *Sacred Disease*, has understood perfectly the prime function of the concept of the physician's 'responsibility' in the self-defining discourse of the *iatrikē*: see. Pigeaud (1990) 21: 'Dégager la maladie de la malédiction religieuse, c'est donner sa dignité au malade et aussi la donner au médecin en enlevant toute responsabilité au malade et en en donnant une au médecin [...] le mage sauve sa responsabilité au prix du mensonge et de la lâcheté. Le médecin, en revanche, acceptera l'échec et la responsabilité, et repousse ce qui n'est que manœuvre pour abuser de la crédulité du patient'.

does not make mistakes through ignorance alone but also, and not paradoxically, because knowledge is also made of error, this fallibility being also a sign of the mobility, both biological and cognitive, of the living being.⁶⁸

Now the perspective from which it is important ‘to be right’ rather than ‘to tell the truth’, might suggest a new outlook from which we may reappraise the statement of purposes found in *Regimen* 1.1 (6.466 L.):

While many have already written on this subject (νῦν δὲ πολλοὶ μὲν ἤδη συνέγραψαν), nobody yet has rightly understood how he ought to treat it (οὐδεὶς δὲ πῶς ἔγνω ὀρθῶς καθότι ἦν αὐτοῖσι συγγραπτέον). Now none of them is blameworthy for being unable to make complete discoveries; but all are praiseworthy for attempting the research. Now I am not prepared to criticise their incorrect statements; nay, I have resolved to accept what they have well thought out (προσομολογεῖν δὲ τοῖσι καλῶς ἐγνωσμένοισι διανενόημαι). As to the incorrect statements, I shall accomplish nothing by exposing their incorrectness. Hipp. *Vict.* 1.1 (6.466 L.).

In this passage, the relationship between the word of the author and that of other practitioners reaches complexity of a profound degree. Indeed, the author of *Regimen* is spurred on by a two-fold and apparently contradictory need: to distinguish himself from his predecessors as the one to have grasped the correct method for medical writings, and to establish, through this act of writing, a tradition within which he could

⁶⁸ A distinction between ‘telling the truth’ and ‘being right’ was proposed, in the field of historical epistemology, by Canguilhem (1968) 48–49, in which the French scholar takes up Koiré’s claim that, despite having no means of proving the Copernican theory, Galileo was right. It is interesting to consider Foucault (1972) 17, who makes direct reference to the passage by Canguilhem: ‘Within its limits, every discipline recognizes true and false propositions; but rejects, from the its opposite margins, the entire teratology of knowledge. The exterior of a science is more and less populated by that which is not believed; of course, there is immediate experience, imaginary themes which lead away and lead back again without laying belief or memory; but maybe there is no error in the strict sense, since error cannot occur as a definite element if not within a definite practice. In short, a proposition must fulfil a series of complex and demanding requirements in order to be considered part of a discipline; before it may be called true or false, it must, as Canguilhem would say, be right’. Balibar (1993) observes that Foucault basically overturned the meaning of Canguilhem’s claim, which supposes that Galileo *anticipated* a prescriptive regime whereas in Foucault’s view, Galileo yielded in a more radical fashion to a ‘policy of discourse’, to the norms which science was defining in order to authorize the expression in words of the propositions. As Porro (1998) XXXVII observes, according to Canguilhem, Galileo was ‘right’, even though what he said was not true, since he was out of balance with the prescriptive domain of traditional knowledge, and in this field, error also becomes unstable.

record his own cognitive experience.

The reference to errors made by predecessors does not imply the individuation of theoretic adversaries, of polemic idols to be felled, but rather contributes to the individuation of a tradition which, although in certain cases having attained correct forms of knowledge, is nonetheless incomplete. The task undertaken by the author of *Regimen* finds, however, its true *raison d'être* in the certainty of finally being able to complete the tradition of medical knowledge. From this point of view, whatever has been written correctly or incorrectly in the past represents the phenomenal manifestation of the ties which have bound each practitioner to his own knowledge, as well as of the efforts made to found knowledge on the basis of the writings.⁶⁹ It is not a question of an abstract definition of the medical knowledge, but rather of the adherence of each practitioner to an 'eye' which observes, a 'mind' which knows and a 'hand' which, after having treated and before turning to another patient, writes.

One final observation. If, as it appears to me, in the treatises of the *Hippocratic Corpus*, medical education 'moves through' errors and prepares to manage them in a 'conscious' fashion, as far as the pragmatics of knowledge is concerned, and in a 'responsible' fashion, as far as the ethics of knowledge are concerned, one may, therefore, suppose that the point of this education might be expressed through the

⁶⁹ The bibliography on the role of writings in the development of cognitive processes is immense, and this is not the place in which to attempt its recognition. I shall confine myself to quoting Lonie (1983), Pigeaud (1988), Miller (1990). It is, nonetheless, useful to recall the words of Manuli (1985) 231: 'Per la prima volta nel V secolo è possibile leggere e scrivere un testo di medicina. i medici sono tra i primi a fare un uso sistematico della scrittura, e questo modifica in qualche modo anche la loro stessa *technē*: un sapere trasmesso attraverso la comunicazione orale è certamente diverso rispetto a quello trasmesso attraverso la scrittura. Come è noto, essa non rappresenta una semplice registrazione dei dati e delle informazioni fornite da una *technē* priva di scrittura. Se offre la fissità necessaria per resistere al meccanismo della dimenticanza, nel suo stesso fissare qualcosa, apre e chiude linee di sviluppo, e rappresenta sempre una forma di capitalizzazione dell'esperienza, che proprio in quanto tale è in espansione e in crescita [...] La scrittura non è pura registrazione della memoria, come diceva Galeno, ma un mezzo euristico di esplorazione della realtà'. An invitation to the problematization of the writing-knowledge relationship is provided by Dean-Jones (2003): the American scholar supports the claim that written medical knowledge may have affected the appearance of 'charlatan' physicians, equipped with superficial and 'bookish' knowledge, lacking medical training based on direct experience and observation. The appearance of these figures at the edges of medical knowledge would in turn have made recourse to the writings a necessity in order to shield medicine from the disrepute such new charlatans had brought upon it. Cf. also Miller (1990).

solemn pledge made in the *Oath*: ‘I will guard my life and my art with purity and integrity (ἀγνῶς δὲ καὶ ὁσίως διατηρήσω βίον ἐμὸν καὶ τέχνην ἐμήν)’. The purity and integrity evoked here belong to the semantics of cognition.⁷⁰ The practitioner taking the oath is aware not only of what he must do and what he must not do in the daily practice of his *technē*, but also of the great number of cognitive and intellectual operations by which he will be called to abide in the execution of his actions. To see, to listen, to distinguish, to predict, to compare, to decide whether to wait or to force nature’s timing within the right limits: these are the operations, the true acts of medicine since, within the relational dimension in which each physio-pathological process is made to interact with the therapeutic intervention carried out upon it, the simple fact of ‘having knowledge’ of a phenomenon implies the determination of its position and innermost connections in relation to a wider network of phenomena, and the sorting out, through rebuilding the structures of such a network, of the possible evolutionary scenarios to be inhibited and those towards which the *phusis* should be guided.⁷¹

All in all, the life of the practitioner, in cognitive terms, must be kept pure, given the moral inseparability of the professional and personal sphere, of one’s own *technē* and one’s own life.

Within the *iatrikē*, this inseparability forms the ‘connective tissue’ between epistemology, pragmatics and cognitive education. This structure constitutes the origin and condition of existence of the authority of the medical discourse.

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⁷⁰ As von Staden (1997) has demonstrated in a very persuasive way.

⁷¹ Cf. *ibidem* 195.

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‘Choose your master well’
Medical training, testimonies and claims to
authority

Natacha Massar

Summary

This paper explores the ways in which a doctor could use his master’s name to enhance his authority and back his claims to being a qualified physician. This is looked at mainly in two contexts: when applying for the position of public physician, and in medical treatises. I argue that the influence of teachers was widely recognised in Greek society. This meant that using the name of one’s master to defend one’s skills was accepted by both colleagues and laymen and could therefore be used in very different contexts. Sometimes this argument had to be confirmed by witnesses, in which case fellow-pupils or patients treated during a pupil’s apprenticeship could come in useful.

Introduction

The lack of official training and of diplomas in Antiquity has often been pointed out: this basic fact had effects on many areas of a doctor’s professional life. Some common Greek medical practices, such as prognosis, seem to have been developed in this context, as they were impressive and awe inspiring. A doctor’s reputation was extremely important; how persuasive and confidence inspiring he was could have an essential influence on the development of his career.

Medicine was a very public trade and those a doctor had to persuade were generally laymen. In order to be effective, he should therefore use arguments whose validity was widely acknowledged. Several scholars have underlined that being associated with a known doctor, e.g. because he was your master, was a means to acquire authority.¹ An anecdote told by Celsus illustrates this point. In a passage about

¹ Lloyd (1992) 127; Dean-Jones (2003) 107, 118, 120.

hydropisie, he tells a story about the comparative merits of two doctors at the court of Antigonus Gonatas, who were treating a patient suffering from this illness. He starts out by naming one of the physicians – his name has been lost – and immediately adds ‘a not undistinguished physician, the student of Chrysippus of Cnidus’ (*non ignobilis medicus, Chrysippi discipulus*).² He then goes on to tell how this doctor, who has long been identified as Aristogenes of Thasos, proves his superior skills by making a prognostic which turns out true (the death of the patient), contrary to his colleague Philippus of Epirus. In this short text, Aristogenes’ teacher is mentioned twice, and Philippus’ never. Two features define the better doctor: his master’s name and his prognostic skills.

I would argue that the training period could serve a young doctor well: not least because being associated with a well known physician, your master, was an accepted argument to defend your qualifications. In this paper, I would like to explore various aspects of a young doctor’s training that could have a bearing on his career, and the means by which he could enhance his chances. I will start out with a very concrete situation in which the doctor interacted mainly with laymen: the appointment of a public physician. I will then look at the training period itself (excluding the medical aspects), and finally examine the use of this argument – i.e. being the pupil of a famous master – in a more strictly medical context. To narrow down the material, I will focus on the fourth century and the Hellenistic period (third-first century BC): although most treatises of this period have been lost, many excerpts of Hellenistic doctors’ writings were preserved in later authors (Galen, Soranus, Celsus, Pliny the Elder, etc.). Quite a lot of information on public physicians can be found in honorific decrees, dating mainly from the fourth to the early first century BC, several dozen of which have been found all over the Greek world.

The master’s name, proof of competence

The Greeks recognised that teachers, especially at a higher level of education, had a strong and defining influence on those they taught. The master’s role was particularly emphasised in the case of people trained in a technical skill, whether as a means to further their education or to actually become a professional. This widely

² Cels. 3.21.3.

acknowledged influence explains for instance that Hermippus of Smyrna, third century BC philologist and biographer, should write two volumes respectively entitled *Isocrates* and *The Pupils of Isocrates*.³ The second book groups very different people, most of whom did not become professional orators, but who had in common their training period with the famous Isocrates. The name of the teacher was often remembered over time, and appears as normal biographical data, e.g. in Callimachus’ *Pinakes*.⁴ This is true be the person under consideration a political or military figure, a poet, a musician, a sculptor, a philosopher or a doctor... In fact, although biographical data about Hellenistic doctors are generally scarce, one of the pieces of information sometimes handed down over time is the name of their master.

If the influence of a master is widely acknowledged in Antiquity, how could this serve a doctor? To look into this, let us turn to a specific group of doctors, those who work in Greek cities as public physicians. These physicians are known mainly from honorific decrees, which mention their skills and the practical services they offered many cities of the Greek world.⁵ They were employed by a city state and paid at public expense for a limited time, generally one year – a renewable contract. They were chosen by the Assembly of the city, that is laymen.⁶ It appears from various documents, literary and epigraphic, that in a world where there were no diplomas, no official means of controlling what somebody said about his qualifications, the city’s main preoccupation was to select a competent doctor. A candidate’s persuasive skills were therefore important. But rhetoric alone was not enough: he also had to use arguments that would be recognised as valid by a lay public.

The classical text about the arguments used by candidates to prove their qualifications comes from Plato. In the *Gorgias*, the philosopher gives an account of how to obtain a public appointment. In a first passage (456b-c), Gorgias explains that if he, the rhetor, and a doctor competed in speeches in front of the Assembly about which of them should be chosen as a doctor, he would certainly win.⁷ Many scholars have commented on these lines, highlighting the importance of

³ Bollansée (1999) fragment n° 42-54, 207-214; see the comments 86-87, 94.

⁴ Blum (1991) 155-156; see too Bollansée (1999) 120.

⁵ On public physicians see Cohn Haft (1956) passim, Pleket (1983) 328-339 and (1995) 27-31, Nutton (1981) 11-15 and Massar (2005) 31-50.

⁶ See the comments of Nutton (1985) 34-35.

⁷ On this text, and the difficulties laymen had in judging specialists (according to Plato and Aristotle), see Jori (1995) 411-423, especially 412-413.

persuasive skills which appear more effective than actual professional competence.⁸ But focusing only on this aspect is misleading. Further on in the dialogue (514a-e), Plato comes back to this problem, and discusses what you should scrutinize when considering an application for a public position, such as that of an architect or doctor. These paragraphs offer a more nuanced picture, concentrating on relevant arguments that can be used by candidates rather than on the boasts of Gorgias. Socrates, speaking of the building craft, says: ‘Should we not consider and scrutinize ourselves first of all to see whether we knew the craft or didn’t know it, the art of building, and who we learned it from?’ (πότερον ἔδει ἂν ἡμᾶς σκέψασθαι ἡμᾶς αὐτοὺς καὶ ἐξετάσαι, πρῶτον μὲν εἰ ἐπιστάμεθα τὴν τέχνην ἢ οὐκ ἐπιστάμεθα, τὴν οἰκοδομίην, καὶ παρὰ τοῦ ἐμάθομεν;).⁹ He goes on to consider whether they have built fine buildings, first with their master, then alone. And sums up by saying that if they (that is he and Callicles) cannot point out their master, or show any such buildings, it would be absurd to apply for a public appointment (514c). Two paragraphs later (514d-e), when talking about the medical craft, he asks the same questions.

Xenophon, in the *Memorabilia*, in an ironical tone, mentions the same criteria. He suggests the absurd possibility of a candidate who would address this speech to the Assembly: ‘Men of Athens, I have never yet studied medicine, nor sought to find a teacher among our physicians, ...’ (Παρ’ οὐδενὸς μὲν πρόποτε, ὦ ἄνδρες Ἀθηναῖοι, τὴν ἰατρικὴν τέχνην ξμαθὸν οὐδ’ ἐξήτησα διδάσκαλον ἐμαυτῷ γενέσθαι τῶν ἰατρῶν οὐδένα).¹⁰

These two authors imply that the training period, and a (good) master, are basic requirements to prove one’s qualifications. In other words, when assessing the worth of a candidate, the Assembly will start out by examining who taught him. This means surveying the teacher’s professional results, a necessary inquiry since as a student will become an accomplished doctor only if he has trained with a worthy teacher. Plato supposes that the people listening to the doctor will know his master, at least from hearsay: otherwise his value as a witness is not very high.

⁸ For instance, Lloyd (1979) 254-255 and (1987) 103-104 who points out the exaggeration. On the rhetorical skills of doctors, see too Nutton (1981) 13 and (1985) 36-37.

⁹ Pl. *Grg.* 514b.

¹⁰ Xen. *Mem.* 4.2.5.

It thus appears that when applying for a position as a public physician, a candidate spoke in front of the Assembly and during his speech gave an account about his master and patients. He could, moreover, call upon his master and healed patients to vouch for him. That testimonies were indeed used is known from a Samian decree in which it is said that ‘Since Diodorus... through his own skill and care looked after and cured many of the citizens and of the others in the city who had fallen seriously ill and was responsible for their safety, as has been testified to often by many people at the Assembly when contracts for public service were established...’ (ἐπειδὴ [Δι]όδωρος ... | πολλοὺς τῶν πολιτῶν καὶ τῶ[ν ἄλλων τῶν ἐν τῇ πόλει | εἰς ἐπικινδύνους ἐμπεσόντ[ας] δι[α]θέσεις τῇ αὐτοῦ | ἐμπειρίαι τε καὶ ἐπιμελείαι θερα[πε]ύσας ἀποκατέστησε || καὶ παραίτιος ἐγένετο τῆς σω[τ]ηρίας αὐτῶν, καθότι καὶ | πλειονάκις ἐπὶ τῶν ἐργολαβιῶ[ν] ὑπὸ πολλῶν ἐν τῷ δήμῳ μεμαρτύρηται).¹¹ It should be emphasised that although this inscription is the only explicit mention of public testimonies in this context, appeals to witnesses to vouch for an honoured person’s deeds or to support someone’s claims are mentioned in other decrees.¹² In a society in which there were no easy means of proving your identity or your claims, it was a recognised and wide-spread practice. And it was probably used much more often in the case of doctors than is stated in the documentation.

Most Hellenistic decrees in the honour of doctors celebrate public physicians.¹³ Although these texts testify to the permanent preoccupation of employing a qualified physician, they almost never mention the doctor’s master. Does this mean that Plato invented this form of proof? This seems highly improbable. This absence is rather due to another characteristic of the epigraphic material, i.e. the fact that almost all decrees honour a foreigner, a doctor who came from some other city, sometimes far distant from the one honouring him. In this situation, his master’s name was not of much use, as presumably in most cases he was not widely known. Therefore a practitioner trying to secure a job in a faraway city, could not use his name to support his claims as it meant nothing to his audience, and would therefore not prove anything. The situation that Plato alludes to is a strictly Athenian one: an Athenian doctor, who learned his trade in Athens, with a local

¹¹ *IG* XII 6, n°12, l. 12-17. The Greek text and an English translation can be found in Austin (1981) 217-218 n° 125.

¹² Robert (1965) 166; Gauthier (1972) 79-82.

¹³ Massar (2005) 29.

physician, speaking in front of the Assembly of the Athenians. Since his master is known to them, and can even be questioned if need be, his apprenticeship does vouch for his qualifications. The Samian decree quoted above refers to a similarly local situation: healed patients can testify on Diodorus' behalf because he has been working for a long time in Samos (his many years of services are mentioned l. 11). But if you are a travelling doctor, saying you studied the art with the unknown so and so is not very useful.

There is one exception to this silence about masters in epigraphic material, and it seems to confirm the point. In a quite recently published decree from the Coan deme of Halasarna, a doctor by the name of Onasander is honoured.¹⁴ What interests us here is that to justify the award of honours, the decree specifies all the reasons for which the demotes appreciate Onasander and consider him a worthy physician. In particular it elaborates on the stages of his apprenticeship and then, more shortly, of his career, as they relate to the inhabitants of the deme. This is how the justifications of the decree begin: 'Since the doctor Onasandros, son of Onesimus, having learnt the art from Antipatrus, son of Dioscuridas, when his master was public physician in our deme, ...' (ἐπειδὴ Ὀνά|σανδρος Ὀνησίμου ἰατρὸς μαθὼν παρὰ Ἀντιπάτρῳ || τῷ Διοσκουρίδα| τὴν τέχνην, καθ' ὃν ὁ διδάσκαλος | αὐτοῦ καιρὸν ἔδαμοσίευσεν παρ' ἡμῶν, l. 3-6). In other words, the first information given about the honoured physician is the name of his master, and who he was in relation to the Halasarnanians. A significant fact since they employed Antipatrus for many years and appreciated him enough to honour him.¹⁵ The decree for Onasander, I believe, adds direct evidence to Plato's testimony that the formation years, and the identity of the master, were indeed considered important proof of a (young) doctor's skills. As it happens, for complicated reasons which I cannot go into here,¹⁶ most Hellenistic decrees honour foreign physicians who cannot use this information, and must therefore rely on other means to prove their skills and qualifications.

¹⁴ SEG 41, 680. Text and French translation in Jouanna (1992) 524-526; comment in Nutton (1995) 19.

¹⁵ Kokkorou-Alevra (2004) n° 2.

¹⁶ This question is a thorny one and also concerns professions other than the medical one. The answers to it remain hypothetical but must be related in part to the sources, i.e. Greek habits concerning the award of honours, but also more generally to the relations of Greek cities to specialists. See Massar (2005) 283-287.

Building networks

The decree for Onasander also highlights another potentially useful aspect of the training years: the ties you could build and the reputation you could begin to establish during this time. Onasander earned the trust of the demesmen of Halasarna during his apprenticeship, and then strengthened this relation first during the period when he served his master as an assistant, in the town of Cos, then during his independent career.¹⁷ He not only treated patients from Halasarna during all this time, but refused any payment from them (l. 28). This mutually satisfactory relation culminated in his being honoured by the Halasarnians. Onasander did not rely solely on his medical skills to ingratiate himself with the demesmen: he also made use of a generosity strongly encouraged in Greek society.¹⁸ While assisting his master, an apprentice would come into contact with many people who could later on support him, appeal to him for medical services, and possibly vouch for his competences.

Indeed, relations established during the training period, by contact with patients and other doctors or fellow trainees, must have been quite important for furthering one's career. In his speech *Against Timarchus*, Aeschines¹⁹ accuses Timarchus of having become the apprentice of the doctor Euthydicus in order to prostitute himself (Οὗτος γὰρ πάντων μὲν πρῶτον, ἐπειδὴ ἀπηλλάγη ἐκ παίδων, ἐκάθητο ἐν Πειραιεὶ ἐπὶ τοῦ Εὐθυδίκου ἱατροῦ, προφάσει μὲν τῆς τέχνης μαθητῆς, τῇ δ' ἀληθείᾳ πωλεῖν αὐτὸν προηρημένος). Lysias' speech suggests that it was common knowledge that you would meet many people when training to become a physician, a situation Timochrates exploited for his own purposes. But the same situation could be used by another young apprentice to build a reputation and a first network of relations. Unfortunately we lack concrete data on this question. I would suggest, based on sadly scant evidence, that the students of Chrysippus of Cnidus also benefited from the latter's network. We know hardly anything about Chrysippus' life. The doctors who are supposed to have studied at one time or another with him include Aristogenes of Thasos, who became the personal physician of Antigonos Gonatas,²⁰ Chrysippus

¹⁷ *SEG* 41, 680, l. 3-38.

¹⁸ On the different contexts in which (public) physicians treated patients for free, see Massar (2005) 93-94, 97-99.

¹⁹ Aeschin. *In Tim.* 40.

²⁰ *Suda*, s.v. Ἀριστογένης. See too Cels. 3.21, 3. Marasco (1996) 437-438.

of Rhodes, personal physician of Arsinoe, wife of Ptolemy Philadelphus,²¹ Metrodorus who may have been the doctor of Antiochus I.²² These pupils all came from different places to study with Chrysippus, and then all dispersed with the result that in the early third century BC there was at least one physician who had trained with him in every important Greek kingdom. As the anecdote about Aristogenes mentioned in the Introduction shows, Chrysippus was certainly famous enough in his own right so that to be associated with him would already be a form of recommendation. But this is not enough to explain that three of his pupils became royal physicians. For this to happen, he did not simply have to be famous, he had to be famous in the right circles. In other words, these doctors' appointment at court must be due, in part at least, to their master's network of relations, be it that through personal relations he could intervene on their behalf, or that they established contacts in the right circles during their apprenticeship which later on served them well.

Before going on to other aspects of the master-student relation, I would like to make a brief mention of another bond which developed during the training period, and which seems important: that between fellow students. In one case at least, a doctor is even defined by his relation to a fellow pupil, rather than to his master: 'Heraclides, the Herophilean doctor, fellow pupil of Apollonius Mys' (Ἡρακλείδης Ἡροφίλειος ἰατρός, συσχολαστὴς Ἀπολλωνίου τοῦ Μυός).²³ Unfortunately, we are also very poorly informed about this relationship. We do have one example of the use this bond could serve, from the *Introduction* of Apollonius' treatise *Joints according to Hippocrates*: 'that most of the time he (= his master, Zopyrus) took care of fractures and operated dislocations according to Hippocrates, Posidonius can testify to as he too followed the lessons of this doctor' (ὅτι δὲ ὁ ῥηθεὶς ἀνὴρ ἐπὶ τε τῶν καταγμάτων καὶ ἐπὶ τῆς τῶν ἐξαρθρήσεων χειρουργίας κατὰ τὸ πλεῖστον Ἱπποκράτει κατακολουθῶν ἐθεράπευεν, μαρτυρήσειεν ἂν ἡμῖν Ποσειδώνιος τῷ αὐτῷ συνδιατετριφῶς ἰατρῷ).²⁴ In this case, Apollonius uses his relation with Posidonius, and the fact that they both studied with the same master, to appeal to him as a witness that can be 'consulted' by his readers. Apollonius, who

²¹ D.L. 7.186; schol. in Theoc. *Id.* 17.128 (324 Wendel). Marasco (1996) 449.

²² *I. Iliou* 34 Some authors, in particular Fraser (1969) 518-537, have held the view that Erasistratus too was employed at the Seleucid court, but this is not supported by the evidence. See Marasco (1996) 440-442; Massar (2005) 105-112.

²³ Str. 14.1.34 (C 645)

²⁴ Apollon. *Cit.* 1.1 (12 Kudlien & Kollesch).

apparently does not live in Alexandria anymore when his treatise is published there, names somebody who lives in the city and will back his word. This case offers another example of the practice of referring to a witness; indeed, the same verb ‘μαρτυρεῖν’ is used to express this action here and in the Samian decree.

In a few cases, being fellow-students seems to have created a strong bond between two doctors, strong enough to be remembered, even if we do not know what this meant in practical terms. Let us just add that a ‘professional’ network could probably already develop during apprenticeship and that this, in turn, may have been useful for spreading theories, e.g. by the handing over of copies of treatises to friendly colleagues.

Seeking out a famous master

It appears from these examples that having just learnt medical skills is not enough: it is important to be associated with a master as famed as possible, a doctor whose skills were widely known and appreciated. Due to this, it was important for an aspiring doctor to choose his master well.²⁵ Indeed, it seems quite probable that, as in other professions, medicine could be learnt in several stages, and a young physician could go from one master to another: it would add to his chances of success to be at least partially trained (and associated) with a famous doctor. In order to do so, those who already mastered basic medical skills, could seek out a known practitioner and become an apprentice to him. In this way, they would of course acquire better knowledge, but they could also recommend themselves from somebody famous.

The most compelling case that suggests a two stage training is that of Erasistratus of Ceos. He came from a medical family (his father, uncle and brother all seem to have been doctors)²⁶ and it seems reasonable to infer from this that he first learned his trade from family members, which was ordinary practice in ancient times. But ancient texts associate him with a specific teacher, Chrysippus of Cnidus, the famous physician mentioned above. Erasistratus, originally from Ceos, must

²⁵ This implies of course that medicine is no longer taught only to family members, a change which occurred around Hippocrates’ time; he himself had several students who came from other cities. See Jouanna (1992) 72-75.

²⁶ Kleombrotos, his father: Plin. *Nat.* 7.123; Medios, his uncle: *Suda*, s.v. Ἐρασίστρατος; Kleophantos, his brother: Cels. 3.14.1.

have travelled to meet Chrysippus and follow his teaching. Although it is not clear where the later spent most of his life, he does not seem to have lived in the backwaters of Ceos. Going to study with Chrysippus implies an important investment – financial and otherwise – on Erasistratus' part, which was probably only worthwhile because he had already shown his aptitude for medicine.

Another potential candidate is Herophilus: we know nothing of his family and possible early training, but his relation to his known teacher, Praxagoras of Cos, is similar to that of Erasistratus and Chrysippus. Praxagoras, famous in his own right, and native of *the* medical city of the ancient world, was in a perfect situation to attract a student who was interested in 'higher level' medical education. Again, Herophilus most probably travelled to Cos to meet him and become his pupil since, as far as we can judge, Praxagoras spent most of his life in Cos, and his other known disciples were Coan.²⁷ Herophilus's own students must have done the same: they come from far or very far away (e.g. Bacchius of Tanagra) and it seems improbable that as boys with no medical knowledge, and unproven skills, they would have undertaken the dangerous and expensive trip to Alexandria. Indeed, another of Herophilus' students, Philinus, who originally came from Cos, the city of medicine, certainly undertook some kind of training at home before leaving for the land of the Ptolemies.

This type of two level training is known for other professions and/or other times. A famous medical example is, of course, Galen himself.²⁸ But this practice is also known for philosophers: Diogenes Laertius tells of several of them who first studied with somebody in their hometown and then travelled to the philosophical centre of the Ancient world, Athens, to become the pupil of a famous philosopher. To mention just one example, Theophrastus first studied in his home island of Lesbos with Alcippus, then travelled to Athens where he became the pupil first of Plato then of Aristotle.²⁹ We do not know if Theophrastus travelled to Athens specifically to meet Plato and Aristotle or if he went there because it was the intellectual and especially philosophical centre of the Greek world. The same ambiguity arises with doctors who studied in Cos, such as Herophilus, or those who later on studied in Alexandria. But in all of these cases, these young men travelled to seek out further

²⁷ See the comments in von Staden (1989) 42-43.

²⁸ Grmek and Gourevitch (1994) 1491-1528 with older bibliography, and Nutton (1993) 12-14 with other examples.

²⁹ D.L. 5.36

education – most probably hoping to train with a known teacher, although having studied in such famous centres was certainly in and of itself a form of recommendation.

These examples suggest that if you had the means, and were skilled enough for it to be worthwhile, it was a good idea to travel to the place where a famous doctor practised and taught and hope to be taken in as his pupil. And, to come back to a point I have already made, the patients and relations of a famous doctor might have been of a higher social standing: by becoming his pupil, you would also benefit from contact with these people.³⁰ This does not mean that famous doctors never taught beginners: it is quite possible that the Coan students of Praxagoras trained with him from the start. From what we know about philosophers it seems that a teacher could be surrounded simultaneously by students and disciples of extremely varied levels of instruction and degrees of interest.

That such a two stage training was probably more frequent than we would at first sight imagine is suggested by one of the rare pieces of ‘biographical’ information we often do possess about Hellenistic doctors: their ethnicity. If you look at the city of origin of many doctors known from literary sources, they do not come from the same city as their (known) master. To mention a few, all the students of Chrysippus of Cnidus came from different cities (Thasos, Rhodes, Amphipolis, Ceos); Apollonius of Citium studied with Zopyrus of Alexandria, Erasistratus probably trained Apollophanes from Seleuceia of Pieria; Philotas of Amphissa, a friend of Plutarch’s grandfather, came to Alexandria as a young man to study the art: he too came there to perfect his knowledge and skill.³¹ And from what we know from other professions, it seems likely that the students sought out a master rather than the other way around: in other words, they all travelled to train or, more probably, to polish up their previous medical education.

Situating a doctor

Up until now, we have been mainly looking at the relation between master and pupil in very practical contexts, and it’s importance for a lay public. But what about this in relation to other doctors? To enquire into

³⁰ This is important as their word would bear more weight if they were appealed to for their opinion or testimony; see Massar (2005) 44, 46, 95-96.

³¹ Plu. *Ant.* 28. We do not know his teacher’s name.

this, let us look at the situation in medical treatise, probably addressed mainly to colleagues.³² In medical writings, doctors, even famous ones, can be mentioned as the pupil of so and so. To quote a few examples: according to Celsus: ‘others, following Plistonicus, a pupil of Praxagoras, (hold that) it (= food) putrefies’ (*alii Plistonico Praxagorae discipulo putrescere*).³³ Galen mentions ‘Mantias and his pupil, the Tarantinian Heraclides’ (Μαντίαν καὶ τὸν μαθητὴν αὐτοῦ τὸν Ταραντῖνιον Ἡρακλείδην).³⁴ He also tells us that ‘Heraclides of Erythrae was the most famous of his (sc. Chrysermus) pupils’ (Χρύσερμος (...) Ὁ γε μὴν Ἐρυθραῖος Ἡρακλείδης, ἐνδοξότατος τῶν μαθητῶν αὐτοῦ γενόμενος).³⁵ As these quotations show, when mentioning a doctor, adding the name of his master defines the relation between two (well known) practitioners. It tells the reader who the younger doctor trained with, and conversely which famous physician the elder man taught. This information establishes the ‘intellectual’ relation between two people; it helps readers to situate them. These quotes also suggest that if a known physician had a famous pupil this could add to his own renown (since the association works both ways). This information was preserved over time – and therefore presumably still meant something to e.g. Galen’s readers.

But how did this data become known in the first place? Although there is certainly no single answer to this question, several texts show that some authors relied on the authority of their master to add weight to their own arguments. They, therefore, mentioned their teacher’s name in their writings. In other words, when Galen says: ‘For Phylotimus, in the same way (also) as his teacher Praxagoras, asserts that the salty humor is engendered by everything that causes excessive heat’ (ὁ μὲν γὰρ Φυλότιμος, ὥσπερ γε καὶ ὁ διδάσκαλος αὐτοῦ Πραξαγόρας, τὸν ἀλυκὸν χυμὸν ἐκ τῶν ἐπὶ πλεόν θερμαινόντων γεννᾶσθαι φησιν),³⁶ this does not necessarily mean that Galen compared their two treatises, but rather that Phylotimus explicitly quoted his master (saying something along the lines: ‘already my

³² The treatises in which this data appears, as far as we can judge considering the sad state of preservation of Hellenistic medical treatise, are technical and theoretical. I do not wish to imply by this comment on readership that all treatises written by doctors were meant only for colleagues: I have argued elsewhere (Massar [2005] 253-266) that some works, in particular dietetical ones, were in fact addressed mainly to laymen.

³³ Cels. Prooem. 20 I (20 Mudry; 124 n° 1 Steckerl)

³⁴ Galen, *De comp. med. per gen.* 2.5 (13.502 K.).

³⁵ Galen, *De diff. puls.* 4.9-10 (7.743 K.). See von Staden (1989) 525-526.

³⁶ Galen, *De alim. facult.* 3.30 (374 Helmreich; 60 n° 24 Steckerl; 6.730 K.).

master Praxagoras said...’). Galen is just restating an argument in fact used by Phylotimus.

The Introduction of the first century BC treatise *Joints according to Hippocrates* by Apollonius of Citium, one of the only medical Hellenistic treatise entirely preserved, supports this view. To justify his enterprise, Apollonius feels obliged to ‘prove’ to his readers that he is qualified to write about this subject. To do so, he tells us: some of these [= setting of fractures] I practised myself, others I observed sitting besides Zopyrus in Alexandria’ (ὧν τινὰς μὲν καὶ αὐτὸς κατήρτικα, τινὰς δὲ καὶ Ζωπύρῳ παρηδρευκὼς ἐν Ἀλεξανδρείᾳ τεθεώρηκα).³⁷ In other words, it is his personal experience and his time as an apprentice to the apparently well known Zopyrus which warrant his qualifications to write this treatise. Apollonius uses his master’s name to recommend himself, and supposes therefore that his readers will recognise it and agree that this does indeed entitle him to write on the subject of ‘joints according to Hippocrates’.

Using ‘authorities’ to support your claims was a frequent practice in Antiquity. This has been studied mainly in the case of Imperial authors, such as Diogenes Laertius or Galen, referring back to acknowledged and often long dead predecessors.³⁸ But what about references to one specific and close authority, your master? As the passage from Apollonius of Citium shows, this could be used not just to underpin theoretical ideas, but also in a very concrete manner to justify an author’s claim to practice or knowledge in the field he was writing about.

It is quite probable that in many cases, doctors gave the name of their master in their own treatise. This would establish who they were and who they had learned from, an important piece of information, especially so if their teacher was famous. That it could help to justify their own enterprise, and support their claim to be something of an expert on the subject they were writing on, is shown by the preface of Apollonius of Citium treatise. It served to establish the author’s credentials, to inform his readers of the background and foundations on which he was building, and possibly to set out what his work added to what had already been done in the field. This information was preserved in e.g. Galen mainly when both doctors, master and pupil,

³⁷ Apollon. *Cit.* 1.1 (12 Kudlien & Kollesch).

³⁸ On Diogenes Laertius, Goulet (1997); there are many such studies on Galen, and other imperial doctors, see e.g. Lloyd (1993) and the articles in van der Eijk (1999).

were famous: mentioning their relationship therefore served to enhance both their reputations.

Criticising one's master

As a glance at any Galenic treatise will show, criticising rivals or long-dead predecessors seems to have been a widespread practice in Antiquity, a means of indirectly praising oneself and 'proving' one's own originality and authority, and hopefully of enhancing one's reputation. A good medical example is the long-drawn dispute over the interpretation of the so-called 'characteres'.³⁹ But can such criticisms also be addressed to one's master? It appears that in fact most pupils followed in the steps of their teacher, or professed to do so. We know only a few cases of criticism or downright rejection of a master's ideas and teachings.

One of the most explicit examples concerns Herophilus. On the matter of pulse, one of the medical fields most closely associated with him, he seems to have developed ideas contrary to those of his master, Praxagoras. 'There was no paltry dispute between Herophilus and his teacher Praxagoras concerning these affections, since Praxagoras had stated incorrectly that palpitation, tremor, and spasm are an affection of the arteries (...) For this reason then, Herophilus right at the beginning of his treatise *Pulses* tries to overturn his teacher's opinion' (οὐ σμικρὰ δ' ἀντιλογία περὶ τῶν παθῶν τούτων γέγονεν Ἡροφίλῳ πρὸς τὸν διδάσκαλον Πραξαγόραν, οὐκ ὀρθῶς ἀποφηνάμενον ἀρτηριῶν πάθος εἶναι καὶ παλμὸν καὶ τρόμον καὶ σπασμόν (...) διὰ τοῦτ' οὖν Ἡρόφιλος εὐθέως ἐν ἀρχῇ τῆς περὶ σφυγμῶν πραγματείας ανατρέπτειν πειράται τὴν τοῦ διδασκάλου δόξαν).⁴⁰

Herophilus seems to have set out this conflict of interpretations at the very beginning of his treatise, presenting himself from the outset as having a different, and presumably better, interpretation of pulse than his teacher's. Although Herophilus criticises his master, he in no way breaks with his teachings. Indeed, Praxagoras was known to have

³⁹ Galen, *In Hipp. Epid. III comment.* 2.4-9 (75-95 Wenkebach; 17a.623-5 K.). Nollé (1983) 85-98; von Staden (1989) 503; Hanson (1998) 38-42; Massar (2005) 212-3. This is also very frequent in historians, a good Hellenistic example being Polybius. See Marincola (1997) 221-236.

⁴⁰ Galen, *De diff. puls.* 4.3 (n°150, 327-8 von Staden (1989); 8.723-724 K.). On the evidence that suggests that Galen had firsthand knowledge of Herophilus' treaty *Pulses*, see von Staden (1991) 217-218.

studied this field of medicine; he was the first to distinguish between veins and arteries and to recognise that pulse only occurs in the later.⁴¹ So by criticising him, Herophilus reveals how much he in fact owes his master.

There are only two known cases of outright rejection of a master's teachings: Philinus of Cos seems to have turned away from Herophilus' teachings, although the only sentence mentioning this break actually suggests he did this with the consent (and approval?) of his master: 'At the head of the Empiricist school, on the other hand, stood Philinus of Cos, who was the first to have severed it from the rationalist school, after getting the impulse for doing so from Herophilus, whose pupil he was' (τῆς δὲ ἐμπειρικῆς προέστηκε Φιλῖνος Κῶος, ὁ πρῶτος αὐτὴν ἀποτεμόμενος ἀπὸ τῆς λογικῆς αἰρέσεως, τὰς ἀφορμὰς λαβὼν παρὰ Ἡροφίλου, οὗ καὶ ἀκουστής ἐγένετο).⁴² The other doctor who rejected his master's theoretical approach is Heraclides of Tarantum who was taught by the herophilean Mantias, then passed over to the empirical side, and became one of their best known representatives.⁴³ '...Heraclides and his master Mantias. But Mantias, who had been a Herophilean from the outset, remained one throughout. Whereas Heraclides, an excellent physician, chose in favour of the method of empirical doctors...' (... ὁ Ἡρακλείδης καὶ ὁ διδάσκαλος αὐτοῦ Μαντίας. Ἀλλὰ Μαντίας μὲν, ὡς ἐξ ἀρχῆς ἦν Ἡροφίλειος, οὕτω καὶ διέμεινεν ἄχρι πατὸς, ὁ Ἡρακλείδης ἐπὶ τὴν τῶν ἐμπειρικῶν ἱατρῶν ἀγωγὴν ἐπέκρινεν ἱατρὸς ἄριστος ...). The length of the explanation, and the insistence on Mantias' theoretical consistency as opposed to Heraclides' change of heart, underlines how unusual this situation is. Being part of a tradition is important in Antiquity: following explicitly in the steps of a teacher is an easy way of making sure that everybody knows you are qualified and, in some cases, that you belong to this or that medical trend. Continuity is valued, and despite the habit of criticising colleagues to set oneself off, breaking off completely from a master is rare enough to be worth pointing out.

⁴¹ On Praxagoras' theories concerning the pulse, see von Staden (1989) 270-271 especially.

⁴² Pseudo-Galen, *Introd. s. medic.* 4 (50 von Staden [1989]; 14.683 K.). Translation by von Staden.

⁴³ Galen, *De comp. med. sec. loc.* 6.9 (12.989 K.); see von Staden (1989), p. 516.

Conclusions

During his apprenticeship, for the first time a young doctor-to-be came into contact with the world in a professional capacity. He met and took care of patients, and was viewed by them and other laymen as the physician's assistant. If he was skillful enough, both in a medical capacity and in social relations, he could use this period as a springboard to further his career. He could start to establish a reputation and a first network of people who appreciated him.

During this time, the doctor-to-be became associated with a an older, established physician. This was a relation which would have a lasting influence, and define the 'medical trend' he would be associated with. It could be referred to in many circumstances in which the younger doctor had to establish credentials. It was widely accepted in Greek society that a master played an important role, and could serve as a form of recommendation. His name could therefore be used to persuade laymen of a doctor's qualifications or give authority to an author's words, whether addressed to laymen or colleagues.

But since somebody's word is not always good enough, the network built during training could also produce witnesses (in the flesh or on paper) who would support claims made about one's master, and ultimately one's competence.

Doctors did not live in isolation. Whether they lived in cities or at royal courts, they were always interacting with laymen, who were the main judges of their qualifications and reputation, and on whom they depended on for their living. They had to show themselves off as competent physicians using arguments that would persuade colleagues and, especially, non professionals. Therefore, claims to authority were a complex compound of professional arguments (e.g. appreciation by healed patients) and socially accepted criteria (training with a known master). This mixture, in various combinations, was referred to in widely differing contexts to add weight to one's words and claims.

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Doctors' Literacy and Papyri of Medical Content

Ann Ellis Hanson

Summary

The *Hippocratic Corpus* testifies to the existence of literate doctors, as well as to literate laymen interested in medicine, by the close of the fifth century BC. It is only in later Antiquity, however, that one can begin to speak with confidence about medical literacy encompassing a wide range of specific physicians and a lay public with valetudinarian interests. Evidence from the Roman province of Egypt, when coupled with testimony from Galen and others, is particularly helpful in the effort to sketch a portrait of writers and readers for medical texts. Of particular interest are the joins between the medical writers who have come down to us through the manuscript traditions, many of them practicing and lecturing to the elites of Rome, Alexandria, and eventually Constantinople, and the more ordinary practitioners and their students, friends, and neighbors in the towns and villages of Roman Egypt.

My paper surveys texts on papyrus and other materials that bear witness to medical literacy: first, private letters that discuss medical matters; second, didactic texts that played a role in doctors' education, such as the catechisms (*erōtapokriseis*) and medical definitions; and third, collections of recipes, some of which *receptaria* were once rolls of many columns, while others are but a single sheet with one or two recipes. The some four hundred recipes written down in Roman and Byzantine Egypt emphasize the degree to which the same or similar therapeutic medicaments are shared with medical authors of the manuscript traditions from Dioscorides and Galen to Oribasius, Aetius, and Paul of Aegina.

Medicine was a craft learned at the side of a skilled practitioner for centuries before Greek doctors began to write the treatises of the *Hippocratic Corpus* in the final decades of the fifth century BC. Thereafter, medical literature multiplied in genres and formats, in scope and sophistication, and learning medicine, both theoretical and therapeutic, from the writings of earlier physicians was increasingly

commonplace.¹ Galen recognized both oral and written means to acquire an education in medicine, claiming, on the one hand, that a doctor's competence could be evaluated by interrogating him as to what he knew about the precepts of Hippocrates and other famous physicians of yesteryear. On the other hand, Galen himself taught pupils face-to-face and lectured to friends and associates who wanted to know medicine, underscoring the importance of direct encounters with the experienced physician.² The sick-room was often crowded not only with concerned family members and friends, but also by a host of medical practitioners, their helpers, and curious onlookers. As the physician observed his patient, touched him, took his pulse, asked him, or others in the sick-room, about the past history of his illness — all with the purpose of arriving at correct prognosis and requisite therapies — the other professionals and laymen observed. Discussion and criticism, however, often followed the initial pronouncements, as Galen's stories of such encounters at Rome emphasize.³ Yet, the more a learner's head was filled with medical information from the writings of the past, *ta pro iatrikēs*, the more likely he was to profit from face-to-face instruction from skilled professionals and to acquire *ta iatrika* for himself.⁴ The Hippocratic *Aphorisms* and *Epidemics* came to play a central role within medical education, whatever roles their authors originally intended for the treatises, because they furnished principles in easily remembered format and specific examples.⁵ The Galenic Corpus preserves not only Galen's own advice on how and when to read his own treatises, some of them dictated to scribes skilled in shorthand, but also teaching texts he did not author, such as and

¹ For Greece of the fifth/fourth centuries BC, see Lonie (1983) 145-161; also Vegetti (2004) 237-251. For the flourishing of medical writing in Hellenistic and Roman periods, part of the new interest in technical manuals in many fields, see Harris (1989) 126-127.

² Contrast e.g. Galen, *De optimo medico cognoscendo* 5 (68-70 Iskandar) with Galen, *De opt. doctr.* 4.4 (104 Barigazzi; 1.50-51 K.). Cf. also Hanson (1998a) 22-53.

³ For example, Galen, *De praecogn.* 1.6-10, 2.1-27 (70-72, 74-82 Nutton; 14.602-613 K.).

⁴ Cf. Pl. *Phdr.* 269a 3: books can teach *ta pro iatrikēs*, but not *ta iatrika*.

⁵ Duffy (1984) 21-27. Exegesis of important texts was the standard teaching method in the medical schools of late antique Alexandria, and surviving commentaries on Hippocratic *Epidemics* and *Aphorisms* highlight their prominence, such as Stephanus, *On Hippocrates' 'Aphorisms'* and John of Alexandria, *On Hippocrates' 'Epidemics VI'*, fragmentary in Greek, with more full text in Latin translation.

Medical Definitions.⁶ Both treatises set forth a wide range of medical information in simple format: *Introduction* summarizes all medical knowledge from its beginnings with Apollo and Asclepius down to about AD 100 and the career of Archigenes of Apamea (chapters 1-8), followed by consideration of medical topics and accompanying lists of terms — physiology (9), body parts, both exterior and interior (10-11), bones (12), diseases (13), pharmacology (14-15), diseases of the eyes, skin, and head (16-18), culminating in surgeries and bones that fracture or dislocate (19-20).⁷ *Medical Definitions* claims in its preface that definitions are useful for all doctors, and especially the young just learning their craft (19.346 K.).

Physicians, would-be physicians, and interested laymen

Despite the absence of formally arranged training in medicine, qualifying exams, or licensing overseen by governmental authorities, the quantity of papyri of medical content underscores the fact that those literate in Greek were reading medicine from the *Hippocratic Corpus* and subsequent medical writers through Hellenistic to late Roman times, in addition to learning through apprenticeship. Although frequently referred to as an apprentice contract, *P.Heid.* 3.226 (215-213 BC), the two copies of the same preamble to a contract are more likely to represent a student's exercise than an actual contract, despite the presence of names ('Sosicrates gives Philo to Theodotus for six years for the purpose of learning *iatrikē*').⁸ The hand which wrote both copies on a single sheet is that of a slow, unskillful writer (*bradeōs graphōn*), with smudges and corrected letters, but whether he was in training to become a professional scribe or a physician is unclear.

A list of those identified as doctors in papyrus documents during the thousand years when Egypt was Greek-speaking contained references to 154 *iatroi* as of ca. 1987, and of the some thirty professions there

⁶ For Pseudo-Galen, *Introduction* and *Medical Definitions* as didactic texts, together with other anonymous ancient medical genres known principally from papyri, see Kollesch (1973) 13-46.

⁷ For the topics, Pseudo-Galen, *Introd. s. medic.* 9-20 (14.695-797 K.).

⁸ So also Bingen (1964) 202. A declaration for the Roman census of AD 117 (*SB* 10.10630) included a young man seventeen years old whose profession is listed as *iatro(s)*. Abbreviations for editions of papyri are here cited according to Sosin & others (2008), only online and continually updated at:

<<http://scriptorium.lib.duke.edu/papyrus/texts/clist.html>>.

surveyed only shepherds and guards are mentioned more frequently.⁹ Levels of literacy among doctors and other medical professionals are likely to exhibit some of the same gradations that were operative in the rest of the population, with only a small proportion being fully literate in our sense.¹⁰ The academically trained physician was most likely to have enjoyed a socio-economic status that allowed him in youth the luxury of an education sufficient to read with ease and master Greek texts. Nonetheless, various activities performed by *iatroi* show a number of them to be literate at least to some degree: they were asked by illiterates to sign documents and they served as witnesses to transactions which required signatories.¹¹ The public doctors (*dēmosioi iatroi*) whom authorities in the Roman and Byzantine periods dispatched to investigate the sick, the injured, and the dead as result of accidents or malicious attacks, submitted reports of their visit, and while the official report itself was usually dictated to a professional scribe, the doctors appended their own signatures at the end of such reports.¹² Sending and receiving private letters also implies participation in the literate culture, although even letters do not guarantee the level of literacy, since both literates and illiterates were in the habit of employing professional scribes to write private letters from dictation, and a literate friend or neighbor could be called upon to read the reply.¹³

⁹ For the lists of documentary papyri containing mentions of various professionals, see Harrauer (1987) 89-100, with 203 *poimēnes* and ca. 180 *phylakitai*.

¹⁰ Cf. Hanson (1991) 159-198.

¹¹ Signing for illiterates: *P.Lugd.Bat.* 11.1.ii.24 (AD 338), *P.Lond.* 3.1044.38, p. 254 (sixth century AD), *P.Alex.* 34.10 (sixth/seventh century AD), *P.ApolloAno* 58 (AD 703-715). Signing as witnesses: *P.Col.Zen.* 54.26 (250 BC), *P.Cair.Zen* 4.59666 (third century BC), *P.Münch.* 1.9.106 (AD 585), *P.Mich.* 13.664.43 (AD 585 or 600), *P.Vat.Aphrod.* 4.22 (sixth century AD), and cf. *P.Oxy.* 51.3642 (second century AD).

¹² Not all reports are preserved to the end, but break off before reaching the point of signing, nor is it clear why, in the case of *P.Oxy.* 66.4528 (6 May AD 336) four doctors were dispatched, but only two appended signatures. For a list of published doctors' reports, see *P.Oxy.* 63.4366, introduction, p. 46, to which add *P.Oxy.* 64.4441, 66.4528, and 66.4529; the majority of reports are from public doctors of Oxyrhynchus, although other municipalities are also represented. The reports range in date from AD 96 to 393, and because the two earliest (*P.Oslo* 3.95, AD 96, Oxyrhynchus; *BGU* 2.647, AD 130, Karanis) antedate the legislation of Antoninus Pius that conferred immunities and salaries on a restricted number of 'approved' teachers and doctors for each community, the term *dēmosioi* is not used. For such benefits, see *P.Coll.Youtie* 2.66 (pp. 441-46). At times a doctor had to petition authorities when his privileges were not forthcoming, *WChr.* 395 (AD 172).

¹³ A letter in the second-century AD archive of Sarapion was said by its editor to have been poorly written, and the bad penmanship has sometimes been thought to be that of

Artemidorus was a well-known figure in the mid-third century BC archive of Zenon; he lived in Alexandria and served as personal physician to the high government official Apollonius the *dioikētēs*, but the letters to, from, and about Artemidorus do not deal with medical matters.¹⁴ Surely this close contemporary of Herophilus and Erasistratus could have told us much of interest about medical happenings in the capital city, but he failed to do so in the papyri that have survived, and neither did the majority of other physicians whose letters and other documents we possess. Still, there are a few exceptions: Chaeras wrote to Dionysius, doctor and friend, about two prescriptions for plasters the latter had sent to him, for the two men had already discussed plasters in previous correspondence.¹⁵ The recipe of Archagathus was properly compounded, according to Chaeras, but the caustic one to produce scarification did not include the quantity for resin; further, Chaeras urgently required information about a strong plaster that would serve as a safe cleanser for the soles of the feet. He also wanted a prescription for a dispelling plaster that was to be applied wet. Marcus, in service as a military doctor, wrote to his parents Antonia and Sarapion about a dispiriting battle the soldiers had fought and then turned to family matters, remarking that he earlier asked his mother to dust off his rolls of medical works (*iatrika bublia*). Now again he requested that she clean them properly and take them down from the niche near the window where he left them when he set off.¹⁶ Eudaemon wrote to his mother and other female relatives about family matters, before inquiring about an earlier packet of books sent him from which one was missing, as well as a jar of animal fat.¹⁷ He did receive some moist *collyria*, and now requested that a series of items be sent to him at the surgery (*iatreion*): a folding metal box, a heater, cupping vessels, and three pounds of *collyria* mixed from all (ingredients?).

the doctor Heliodorus who conveyed the letter, *P.Sarap.* 84a; cf. Harrauer (1987) 92, no. 67; rather, the letter emanated from the prefect's office and presumably was a poorly-drafted copy including the prefect's response to an application to lease (*anaphorion*). Thus, at least one ancient doctor can be relieved of the charge of illegible handwriting.

¹⁴ References in Pestman (1981) 302, s.v. Artemidorus, no. 13 (*iatros*); see also Marganne (2002) 359-382.

¹⁵ *P.Mert.* 1.12 (29 August AD 58); see Andorlini (2006) 153-158.

¹⁶ *P.Ross.Georg.* 3.1 (third century AD).

¹⁷ *P.Oxy.* 69.4001 (fourth century AD); for discussion, see Andorlini (1996) 7-15. The letter's *chalkoun deltarion* is best interpreted as a bronze box that folds, see Fischer (1997) 109-113, and also Andorlini & Marcone (2004) 99-100. The *puriatēr*, or heater, was previously known only from Sor. *Gynaecia* 3.10.3.

The elder Pliny was not the only non-professional who read medical literature, and sometimes a layman's letter also mentioned medical matters. The prominent citizen, councilor at Alexandria, and wealthy landowner, Aurelius Appianus, sent a letter of instructions to Eirenaeus, manager of his estate at the village of Euhemeria:

Next there is need for an enclosure for rabbits (leverets). Even a small enclosure is worth constructing, for it is ridiculous to buy them since they furnish themselves to all, and doctors use this for *collyria* and other medicinal needs. *P.Flor.* 3.177 (AD 257)¹⁸

Appianus intended that Eirenaeus breed rabbits not merely for their meat, but also to sell their innards to doctors whom he knew included their inner organs in the salves most often employed in medicaments for the eyes.¹⁹ And from a much lower socio-economic level, Psenpaapis wrote his letter to Gemellus on an ostrakon, for he was out in the eastern desert in the vicinity of Mons Claudianus where a potsherd was no doubt easier to acquire than a sheet of papyrus: 'go, brother, to the doctor so that he gives you saffron and send it to me. Because I did not yet receive the medicinal *collyria*...' ²⁰

Papyri of medical content: catechisms and definitions

Documentary papyri thus provide a glimpse of those literates who were most likely to be reading Greek medical materials — doctors, would-be doctors, and interested laymen.²¹ P. Mertens and M.-H. Marganne have created an electronic data base at the University of Liège to facilitate searching literary and sub-literary papyri of all genres (M-P³).²² As a result, finding, counting, and evaluating papyri of medical content can

¹⁸ *P.Flor.* 3.177 (AD 257), with corrections by Rathbone (1982) 281-84, who notes that Pliny mentioned rabbit's lungs for medicating pains of the eye and its gall for dim-sightedness at *Nat.* 28.47.172. Sophisticated medical writers also mentioned rabbits' hairs and curdled milk from their stomachs as ingredients in various medicaments.

¹⁹ Rathbone (1991) 218.

²⁰ *O.Claud.* 2.220 (ca. AD 137-145).

²¹ Some priests in Egyptian temples practiced medicine and also became literate in Greek during the Roman period, see Hanson (2005) 387-402.

²² The Mertens-Pack³ file or in abbreviation M-P³ is a catalogue of Greek and Latin literary papyri; the subgenre 'medicine & surgery,' online only and continually updated, at <<http://promethee.philo.ulg.ac.be/cedopal/index.htm>>.

now be undertaken more accurately and efficiently. One can only guess how many texts still await discovery, whether languishing in libraries and museum collections of Europe and the United States, or still covered by the desert sands so essential to survival, once their ancient owners abandoned them more than a millennium and a half ago. In any case, only a small fraction of the papyri in M-P³ represent those Greek medical authors whose works have also come down in the Byzantine manuscript traditions, with the *Hippocratic Corpus* being the best represented with twenty-two discrete copies.²³ Many times more numerous, however, are the texts to which no author's name can be attached, the *adespota*. The records in M-P³ vividly highlight the dynamic nature of papyrological studies in general, as the record for an individual papyrus of medical content changes over time to reflect new discoveries. For example, Isabella Andorlini demonstrated that what had been identified for eighty years as a fragment from the first book of *Euporista* by the late first-century BC Herophilean Apollonius Mys, because the first two of the papyrus' twelve recipes for ear-ache had been cited disapprovingly by Galen and specifically attributed by him

²³ Six fragmentary copies of Hippocrates, *Aphorisms*: M-P³ 543, third century AD (*Aph.* 1.1-3); M-P³ 543.1, second-third AD (*Aph.* 1.1-2, most likely a school text); M-P³ 543.2, third century AD (*Aph.* 2.14-24); M-P³ 543.3, sixth century AD (*Aph.* 3.20-4.5, some with scholia); M-P³ 543.4, third/fourth century AD, with commentary (*Aph.* 4.77-78, 5.7-14, 16-22); M-P³ 544, sixth-seventh century AD (*Aph.* 5.43-68, 7.36-43, 54-59). Three fragmentary copies of *Epid.*: M-P³ 537.1, first century BC? (*Epid.* 2.6.7-22); M-P³ 538, late third AD (*Epid.* 3.1.9-120); M-P³ 538.01, first/second century AD (*Epid.* 7.80). Three fragmentary copies of Pseudo-Hippocrates, *Letters*, all belonging to the Artaxerxes narratives: M-P³ 540, first century BC/first century AD (*Epist.* 3-6); M-P³ 541, second/third century AD (*Epist.* 3-5; 11); M-P³ 542, second/third century AD (*Epist.* 4-5; 11). The remaining ten papyri present one or two copies of other treatises in the Corpus, including the *Oath* (M-P³ 545.3, third century AD). For the *Oath*, see also Jouanna (1996) 253-72 and Leith (2007) 35-42.

Galen is currently represented by seven fragmentary texts: M-P³ 456, sixth/seventh century AD (neoplatonic commentary to *On Sects for Beginners*); M-P³ 456.01, fourth/fifth century AD (citation of *De fac. nat.* 1.2); M-P³ 456.1, early third century AD (*De plac. Hipp. et Plat.* 1 (5.181-210 K.)); M-P³ 456.11, fifth century AD (*De comp. med. sec. loc.* 4.7 (12.730-735 K.)); M-P³ 456.2, sixth century AD (*De comp. med. per gen.* 1-2, 7 (13.362-561; 946-1058 K.)); M-P³ 456.21, sixth century AD (*Antid.* 1.8-9); M-P³ 456.22, third century AD (perhaps a copy of the now-lost commentary *In Hipp. de alimento*). Dioscorides, *Materia Medica*, with three papyrus copies (M-P³ 346, second century AD; M-P³ 347 (second century AD); M-P³ 347.1 (first/second century AD). Other known medical authors represented by one fragment each are Heliodorus, Herodotus medicus, Olympius, and Soranus. It is instructive to compare the situation with papyri of more than forty years ago, when only eight papyri of the Corpus were known and one of Galen, for which survey, based on Pack (1967), see Willis (1968) 205-41.

to Apollonius,²⁴ actually belongs to the same papyrus roll as an *erōtapokrisis* ('question-and-answer'), or catechism, on the principles of Methodist doctrine. Disparate sections of what was once a continuous text, being read in the district capital of Oxyrhynchus during the second century AD, had apparently separated, such that the original editors of both parts, themselves separated by nearly a century, published the two sets of fragments as separate entities.²⁵ The most plausible explanation for the fact that two such heterogeneous topics are deliberately juxtaposed on a single roll of papyrus is that their purpose was didactic, intending to present basic information about current therapies for pains in the ear and also about at least one of the three medical sects operative in late Hellenistic and Roman times.

Definitions, together with the closely related *erōtapokriseis*, or catechisms, that elicited definitions through questions, are well represented in the papyri with sixteen examples now known.²⁶ Their various editors provided dates in most instances on the basis of the hand, and the dates assigned range from the end of the second century BC to the fourth century AD, although only one (M-P³ 2344, definitions-format) was dated in the Ptolemaic period, while the other fifteen were apparently copied during Roman times. Fragmentary though the papyrus catechisms and definitions are, the two or three pathologies preserved in most of the texts tend also to sit in close proximity in the pseudo-Galenic *Medical Definitions* and the *Introduction*, and in the pseudo-Soranian *Medicinal Questions*.²⁷ Arrangement or ordering of topics was an important aspect of what students were to learn and the sequence in which they were to learn data, while the fixed ordering *a capite ad calcem* made the information easy to consult in extensive copies of medical material. At the same time, despite the conservative approach of the anonymous compilers in ordering medical topics to be considered, the definitions and therapies they chose to provide were drawn from a variety of sources which often exhibit close affinities with sophisticated authors, from the Latin Celsus to Galen and on into

²⁴ Galen, *De comp. med. sec. loc.* 3.1 (12.616-617 K.).

²⁵ That is, M-P³ now subsumes both the earlier entries, P2 97 and P2 2408 (*P.Oxy.* 2.234 and 52.3654 respectively), into the single entry M-P³ 2360.2 (second/third century AD). For discussion, Andorlini (1992a) 375-90; she joins the two papyrus fragments through identity of their scribal hands, similarities in other aspects of format, and fiber-patterns in the papyrus.

²⁶ To the list in Andorlini (1999) 9, add M-P³ 2340.01 and M-P³ 2343.01.

²⁷ For fuller discussion, see Hanson (2003) 199-217, where I examine M-P³ 2353; 2373.1; 2342 and 2343; and 2340.01.

the late antique compendiasts Oribasius, Aetius of Amida, and Paul of Aegina. The anonymous compilers of catechistic- and definitions-texts thus had access, either directly or indirectly, to treatises by important medical writers of past generations.²⁸ The number of Greek papyri already known which belong to the genre points to its long-lived popularity among learners and probably also as reference-tool for practicing physicians. The genre continued to circulate in the medieval West in Latin translations, and these more complete versions give a good idea of how extensive the copies on papyrus might once have been.²⁹

A good example of a catechism that exhibits not only acquaintance with sophisticated medical literature, but also testifies to the longevity of interest in its material in question-and-answer format, is the fragmentary M-P³ 2340.1, interrogating about hydrocephalus, as Greeks and Romans conceived of the disease.³⁰ Hydrocephalus is briefly discussed in a manner similar to that in the papyrus in the pseudo-Galenic treatises — *Medical Definitions* 390 (19.442 K.) and *Introduction* 19 (14.782 K.) — and much more fully in chapters from earlier medical writers subsumed by the compendiasts into their medical collections.³¹ While the chapters in Greek offer suggestions for the papyrus' lacunae, especially the chapter by Antyllus *apud* Oribasius, it is the Latin of the pseudo-Soranian *Medicinal Questions*

²⁸ For example, both M-P³ 2342 and M-P³ 2343 deal with diseases of the eye, overlapping in the discussion of *pterygion*, an ocular abnormality in which vessels and tissue grow in wing-shaped fashion toward the cornea and beyond to the pupil. See Marganne (1994) 104-132, where she concluded that the two papyri correspond well to traditional ancient theory from Celsus and Galen to John Actuarius. The differentials in symptoms (only in M-P³ 2343.98-104) respond to those in Aetius, while the therapeutic surgery responds to descriptions in Celsus, Aetius, and Paul; the discussion of surgery in M-P³ 2343.110-115 is differently expressed from that in M-P³ 2342.9-14 and considerably shorter.

²⁹ For example, Pseudo-Soranus, *Medicinal Questions*: ed. V. Rose (1870) 243-274, on the basis of Ms. *Londinensis Cottonianus Galba* E IV, s. XIII. For a Greek *erōtapokrisis*, perhaps seventh/eight century AD and the work of the otherwise unknown Paul of Nicea, see Ieraci-Bio (1996).

³⁰ For the Greek text, see *GMP* 1.6, with additional discussion in Hanson (2003) 208-217. For discussion of surgery on the skull, see Jackson (2005) 97-119.

³¹ That is, the two accounts attributed to Leonides *apud* Aët. 6.1 (*CMG* VIII.2.123-125 Olivieri), and *apud* Aët. 15.12 (12-15 Zervós); Antyllus *apud* Orib. *Coll. med.* 46.28.1-16 (*CMG* VI.2.1, 3.237-239 Raeder); and Anonymous *apud* Paul.Aeg. 6.3 (*CMG* IX.1, 46-47 Heiberg).

that seems textually closer to the papyrus.³² The Roman surgeon Heliodorus wrote on hydrocephalus, although this chapter has not survived, and while surgical procedures for hydrocephalus appear in the Latin *Medicinal Questions*, they do not in the papyrus.³³ The bandage to be used after surgery, according to the Latin, is the bunny-without-ears (*utimur autem epidesmo cui est nomen lepus sine auribus*), and bunny bandages, both that with ears and that without ears, were described and employed by Heliodorus *apud* Oribasius.³⁴ Apparently Heliodorus popularized the bunny bandages for use with wounds in the head and surgeries; he may have christened them with their playful names, or even have originally invented them. The appearance of the bunny-without-ears in the surgical procedures for hydrocephalus in Latin, then, seems to lead back to Heliodorus, and the compiler of the papyrus catechism may have relied, directly or indirectly, on Heliodorus' now-lost discussion of hydrocephalus, probably part of his five-book *Surgery*. Such a notion also helps explain why the papyrus catechism stands closest to the account in Antyllus of the surviving

³² For Pseudo-Soranus, *Quaest. med.* 250-251, 273-274 Rose, and for additional manuscript representation, see Fischer (1998) 1-19. Professor Fischer generously shared with me his unpublished transcripts of Pseudo-Soranus, *Quaest. med.* in Ms. *Lincoloniensis* 220, s. XII in., fol. 22r-44r (Linc. 220 represents the same Insular branch of the tradition as Rose's *Cotton. Galba* E IV, but has a fuller text) and Ms. *Carnotensis* 62, s. X ex., fol. 1r-16r, representing the Continental branch of the Latin tradition. While the Latin of both Insular and Continental versions provide parallels to the papyrus' definition for hydrocephalus, only Ms. *Carnotensis* 62, 235 preserves differentiations for the types of hydrocephalus recognized in the papyrus.

³³ Heliod. *apud* Orib. *Coll. med.* 46.26.1-2 (CMG VI.2.1, 3.236 Raeder): 'From Heliodorus. Concerning distention of the sutures.' The management of this condition begins by explicitly following the procedures indicated for hydrocephalus, and after the sutures have been pressed together and the head shaved, the bunny bandage was to be applied. For the account of surgery for hydrocephalus in Pseudo-Soranus, *Quaest. med.*, see 251, 273-74 Rose, and similarly in Ms. *Carnotensis* 62, 271.

³⁴ For descriptions of the two kinds of bunny bandages, often supplements to other types of bandaging for the head, see Heliod., *Peri epidesmōn*, *apud* Orib. *Coll. med.* 48.26-27 (CMG VI.2.1, 3.276-77 Raeder), *lagōos chōris ōtōn* and *lagōos syn ōtois*, and Sor. *De fasciis* 7-8 (CMG IV, 160 Ilberg), *hemirombos* or *lagōos dicha ōtōn* and *lagōos syn ōtois*; Soranus' shorter descriptions are independent of those in Heliodorus. For more on the 'noose-like bandage' called 'ears,' see Heliod. *apud* Orib. *Coll. med.* 48.15.3 (CMG VI.2.1, 3.268 Raeder) and 48.43.1 (CMG VI.2.1, 3.283 Raeder); Pseudo-Galen, *De fasc.* 4 (18a.777 K.), *lagōos met' ōtōn*, and *De fasc.* 20 (18a.792 K.), *lagōos chōris ōtōn*; and Rufus *apud* Orib. *Coll. med.* 49.28 (CMG VI.2.2, 3.44 Raeder), *lagōos syn tois ōtois*.

ancient Greek sources on hydrcephalus, for Antyllus relied on Heliodorus elsewhere.³⁵

The catechistic- and definitions-texts were popular, as the number of papyrus copies indicates. They provided summary information to apprentice physicians and succinct reminders to those in actual practice; further, the explanations and definitions give every indication of having been drawn from the works of important medical writers. Even if the ordering of topics was fixed, the format for inclusion of definitions was flexible, allowing for addition and subtraction to keep the material up-to-date and manageable. Some *erōtapokriseis* were fuller, or more complete than others, with a compiler omitting or including a topic's various aspects, such as differentiation and therapy, as each compiler saw fit.

Medical prescriptions

In his *On the Composition of Drugs according to Places* 1.1, Galen mentioned that a recipe he just copied into his own treatise was discovered by his friend Claudianus, jotted down in a leather notebook once belonging to a physician now deceased (12.422.13-426.8 K). Claudianus considered this recipe for hair loss in older adults of considerable importance, because he had personally seen it reverse the initial stages of balding in two men, such that not only did their baldness not advance, but their bald spots became hirsute once more. The copy of the miraculous remedy in Claudianus' possession, however, was written down in symbols, and Galen and unnamed colleagues were forced to work through the recipe ingredient by ingredient, in order to understand what was indicated by the symbols. Galen admitted that he could only report what seemed to them likely at the time, but promised to supply additional findings, should subsequent attempts bring new information to light. The leather notebook Claudianus found calls to mind first and foremost the thirteen bifolia of a papyrus codex known as *The Michigan Medical Codex* (M-P³ 2407.1) whose copying in the fourth century AD was commissioned by a practicing physician.³⁶ First he collated the text of his newly-made copy against an exemplar, making corrections in addition to the items

³⁵ Sch. Orib., *Coll. med.* 45.24 (CMG VI.2.1, 3.179 Raeder). See also Kudlien (1964) cols. 415-416; Marganne (1998) xvii-xviii; 102-104, 108-109.

³⁶ Youtie (1996) 1-3.

already corrected by the scribe, and then he went on to more than double the contents of the codex by filling the margins with additional recipes for pills to medicate bodily ills and plasters to medicate wounds and lesions of every kind. Naming a therapeutic recipe after the physician or pharmacologist from whose works it had been taken, or by whom it was popularized, became increasingly common in Hellenistic and Roman times, and the codex cited recipes attributed to a number of medical authors: Azanites (fol. B *recto* 2), Dionysius (fol. C *recto* 8), Heras³⁷ (fol. E *recto* 5), Hygienus (D *recto* 4), and Telamon (E *recto* 9-15).³⁸ The recipes in the codex frequently show correspondences with recipes for plasters in the collections of Galen, Oribasius, Aetius, or Paul of Aegina that have come down in the manuscript traditions, highlighting the striking degree of continuity among ingredients and their relative proportions from hand-written copy to hand-written copy over many centuries.³⁹

The only Galen among the late antique codices found at Antinoopolis are extensive fragments from his *On the Composition of Drugs according to Places* (M-P³ 456.2); there are also five codices with treatises from the *Hippocratic Corpus*, including three discrete copies of *Aphorisms* (M-P³ 543, 543.3, 544) and extensive fragments from *Superfoetation* and *Diseases of Women* 1 & 2 (M-P³ 545.1). Not only do these Hippocratic gynecologies proffer an abundance of therapeutic procedures and recipes in addition to disease descriptions, but six codices among the twenty-one *adespota* from Antinoopolis either present recipes with discussion, or recipes alone (M-P³ 2362.3, 2362.4, 2391.1, 2391.2, 2391.3, 2391.4). The aggregate of medical books available in this Greek-style city of middle Egypt underscores the seriousness with which professionals were practicing their

³⁷ For another papyrus with at least one prescription to prevent hair loss from the *Narthex* of Heras of Capadocia, practicing in Rome early in the first century AD, see M-P³ 2382, and Marganne (1980) 179-183.

³⁸ See further, Andorlini (1992b) 13-27, where she characterizes recipes from Late Antiquity as both conservative in formal aspects such as titlature and also transformed, resulting in specialized, alternative versions corresponding to current medical developments.

³⁹ E.g. in A *recto* 4-13, the plaster, said to work wonderfully 'for ulcers and other conditions, because the affected parts of the body are healed by... the so-called *parygron*, a medication not to be despised,' is compounded from pig fat, wax, and the metals white lead and litharge. The same four ingredients are found together in Galen, Oribasius, Aetius, and Paul, often labeled a *parygron*, or *panygron*, and with the same proportions among the ingredients as in the papyrus. For similar correspondences, see the notes to B *recto* 2-14, C *verso* 2-8, D *recto* 10-15, and E *recto* 9-15.

medicine. The names of a few doctors there are known. While one easily imagines them and their apprentices as the readers most likely to consult *receptaria*, the first editor's notion that the entire assemblage belonged to a local medical school, due to the aberrant nature of the Greek in the texts of the *Hippocratic Corpus* and Galen, has not, however, won favor.⁴⁰

Consulting prescriptions from *receptaria* of earlier medical writers was likely to have been the most frequent reading many ancient physicians did, and literate patients perhaps expected as much. No doubt many of these same doctors also gathered recipes, jotting down a new therapeutic medicament whenever they learned of it. For the literate and academically inclined this habit probably began during apprenticeship, as they observed older doctors making a copy of a new recipe for themselves. Among the approximately one hundred papyri containing *materia medica* and therapeutic recipes, some, though now fragmentary, give indications of once having been quite extensive, such as M-P³ 2379, 2409, 2421, 2422; and, although individual recipes in a collection on papyrus often resemble items in the known authors, each extensive collection on papyrus has thusfar proved to be a unique assemblage.⁴¹ Even more frequently met than extensive collections are instances of one or two recipes copied onto a small sheet of papyrus, cut for the purpose, or onto an ostrakon (for example, M-P³ 2400.1, 2400.2, 2407.1, etc.). Laymen with a view toward self-medication may well number among the copiers, as, for example, in the case of a prescription for colds and respiratory ailments scrawled by a slow and unskillful writer on a papyrus roll of the later first-century AD, although it otherwise contains an eight-column list of the *incipita* for Philodemus' epigrams (M-P³ 2410.11). It is, of course, not impossible that a medical professional was interested in having a list copied for

⁴⁰ Marganne (1984) 117-21; two additional codices (M-P³ 2391 and 2391.5) contain recipes with magical elements. The early fourth-century AD martyr and physician St. Collouthus contributed to the medical renown of Antinoopolis, and both *ex-votos* found at his shrine and an eye-salve (*collyrium*) attributed to him testify to his continued ability to cure ophthalmias — see Andorlini & Marcone (2004) 96, 159, and fig. 2.

⁴¹ A particularly interesting example of recontextualization and alteration occurs in M-P³ 2418, a collection of gynecological recipes for various female complaints, copied in the third/second century BC: two recipes in the central column on the front claim to medicate uterine suffocation (*hysterikē pnix*) and closely resemble two recipes in Hipp. *Mul.* 2.200 (8.382.12-13, 8.382.15-18 L.). Dried otters' kidneys, however, were substituted for the castoreum derived from beaver testicles in the Hippocratic version, apparently because otters were plentiful in the waters of the Nile, while beavers were not. See Hanson (1998b) 79-81.

him representing Philodemus' poetic oeuvre, as well as having himself once jotted down the cough remedy — or that the prescription and the list (written by two different hands, with only the writer of cols. ii-viii a skillful scribe) have nothing to do with one another, as the recipe was subsequently canceled by chiasmic strokes.

Collyria, the medicinal salves often used for medicating eye diseases, are frequently encountered, both in extensive *receptaria* and as an isolated recipe on a single sheet of papyrus or on an ostrakon (M-P³ 2379, 2379.1, 2379.2, 2391.61, 2400.11, 2424, 2425). Ophthalmic diseases afflicted not only those resident in the hot and dry climates of the Mediterranean, but also those in the more northwesterly climates of Gaul, Germany, and Britain, whence derive the Latin *collyrium* stamps in plentiful numbers.⁴² Among the wooden tablets excavated at Vindolanda, a fort on Hadrian's wall from late in the first century AD through the middle decades of the second, comes an interim strength report of the auxiliary foot-troop First Cohort of Tungarians (*T.Vind.* 2.154.21-24). Thirty-one were reported unfit for active service: fifteen were sick (*aegri*), six were wounded (*volnerati*), and ten suffered from eye disease (*lippientes*). There was a *valetudinarium* in the fort (*T.Vind.* 2.155.6), as might be expected, and among the staff at some point was Marcus *medicus* (*T.Vind.* 2.156.2) and a pharmacist named Vitalis (*se<s>plasiarius*, *T.Vind.* 3.586 i 7 and ii 4). Only the professions of the two men mark them as medical personnel, for Marcus is said to be accompanying some soldiers on an errand, while Vitalis figures in an account. A very fragmentary account or list may have mentioned *collyria* (*T.Vind.* 3.592.9), and *T.Vind.* 3.591 with only its left portion preserved represents either a list of medicinal substances or, more likely according to the editors, two medical prescriptions for eye-salves. The hand which wrote the two recipes is an attractive and practiced one, but while it may have belonged to a scribe, doctor, doctor-in-training, or pharmacist, it is not inconceivable that a soldier, intent on self-help for his own and his comrades' ophthalmic maladies, made, or arranged for the two recipes to be copied.

None of the would-be doctors or practicing physicians examined above through their appearances in papyrus documents and through the book-rolls and codices they may have read and left behind were as well educated or as bookish as Galen. None seem to have benefitted from a literate education of the sort Nikon provided for his son at Pergamum,

⁴² Jackson (1988) 83-85; see also *GMP* 2.5, a full publication of the partially published *P.Tebt.* II 273.

nor did their talent, ambition, and stamina drive them on to the successful career Galen forged for himself at Rome.⁴³ After his father's death Galen, now aged nineteen and independently wealthy, moved on to pursue medical studies with Pelops at Smyrna, with Numisianus at Corinth, and, since Numisianus frustrated his plans by dying, on to Alexandria in the hope of reconstructing from others the teachings of Numisianus and also those of Numisianus' teacher Quintus. He was in his late twenties before he returned to Pergamum and his first set of patients, the gladiators the high priest of the city maintained for performances during festivals. For about five years Galen successfully served four different high priests, gaining valuable experience as a general practitioner from overseeing the gladiators' overall health and honing his surgical skills by stitching up their battle-wounds. He was in his early thirties when he transferred to Rome about 162 AD where he remained for most of his long life. Galen's prominence as a medical authority for would-be doctors and their teachers in late antique Egypt is amply demonstrated by the number of fragmentary papyri containing his treatises and those from the *Hippocratic Corpus* he so championed. The late-antique commentaries from the manuscript traditions reinforce this same prominence of Hippocrates and Galen. Earlier, however, and probably within a generation or less of Galen's death, a copy of his *On the Doctrines of Hippocrates and Plato* was also being read in Hermopolis, capital city of a district in Upper Egypt (M-P³ 456.1). Whether this reader and his circle were more medically inclined, or more philosophically, is not known, nor is whether the readers were medical professionals or laymen. Nonetheless, in common with all the papyri considered above, this small fragment provides a snapshot of an actual ancient moment, to be contextualized as best as possible into the history of medicine and the education of ancient doctors. Although their interests in *erōtapokriseis* and medicinal recipes are particularly pronounced among all the surviving fragments, evidence for an interest in a discursive text authored by Galen and copied close to Galen's own lifetime, underscores the fact that the doctors of Egypt were learning and practicing their craft in a milieu closely attuned to medical developments throughout the entire Mediterranean.

⁴³ Nutton (2004) 216-224; Boudon-Millot (2007) XXI-XL.

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The Curriculum of Studies in the Roman Empire and the Cultural Role of Physicians¹

Gabriele Marasco

Summary

Several testimonies from both pagan and Christian sources, though generally neglected, allow us to reconstruct the medical curriculum in the Greek part of the Roman Empire, in particular Alexandria. This curriculum turns out to be remarkably comprehensive, as can be explained by the particular roles of physicians in classical society. In this paper we will clarify the part played by several physicians in the cultural context of their time, even outside their professional domain, as well as the relations between the sciences and the humanities, which were entirely complementary in those days, even from a practical point of view.

A topic that seems of particular interest in the debate on the role of physicians in ancient society is the medical curriculum. Their cultural and professional training had in fact a significant effect on the manner in which they carried out their professional activities, their lives and their role in society. Essential information has been passed on to us by Galen, the only physician in Antiquity who left an extensive, at times excessively detailed, description of his training and activities.² But apart from this testimony which, due to Galen's personality and the wide scope of his cultural interests, is highly individual, there are other sources that have on the whole been ignored. These sources yield information on the organisation of medical education and the medical curriculum in Late Antiquity, in particular in Alexandria, which was at the time the most highly regarded place to study medicine.³ An analysis

¹ Translation Arachne van der Eijk, Newcastle upon Tyne.

² As regards Galen's studies cf. in particular Walsh (1927) 132-143; Nutton, (1972a); (1973) 158-171; Schlange-Schöningen (2001) 85 ff.; Nutton (2004) 216 ff.

³ Cf. in particular Scarborough (1969); Nutton (1972b). More generally, concerning the importance of Alexandria as a centre of studies, cf. Liebeschuetz (1991) 885-89, with bibliography.

of these sources seems important for gaining insight into the formation of physicians from a cultural and professional point of view. The testimonies admittedly concern the most advanced centre of studies and the highest level in society, and there were undoubtedly many physicians whose medical training was much more modest. Moreover, there were numerous medical practitioners whose training consisted solely in apprenticeship with a physician.⁴ Nevertheless, these testimonies allow us to assess the relationship between the physician's cultural and professional training on the one hand and his practice on the other, not only with regard to his patients but also in terms of social relationships.

Galen provides some central information on this topic in his *On My Own Books*,⁵ in which he presents an overview of his studies and skills as well as an annotated list of his works, which confirms his cultural scope and the extent of his philosophical, philological, grammatical and literary interests.⁶ He emphasizes in particular the importance, for physicians, of profound knowledge of philosophy⁷ and logic,⁸ as well as geometry and mathematics, both theoretical and applied, which he learned mainly from his father.⁹ In addition, he considers it essential to be well-versed in grammar and rhetoric, and he says he has written various works on the grammar and lexicography of ancient comedy. This again testifies to his in-depth studies and his interest in literature and, in particular, poetry.¹⁰ With some exceptions,¹¹ this appears to be the predominant orientation in the training of physicians according to ancient sources.

However, despite this highly comprehensive and wide-ranging orientation, the rigour and scientific level of instruction was guaranteed not only by the study of books,¹² in particular reading material that was

⁴ Cf. for instance André (1987) 43 ff.

⁵ As regards the autobiographic nature of this work cf. in particular Veith (1959; Misch (1949), 341-48.

⁶ Cf. for instance Stakelum (1940); Deichgräber (1957); De Lacy (1966); Frede (1981); Moraux (1981); von Staden (1995); Sluiter (1995); Ieraci Bio (1997).

⁷ Galen, *De libr. propr.* 1 ff. and 11 ff. (19.9 ff. and 39 ff. K.); 12-16 (19.45-47 K.).

⁸ Galen, *De libr. propr.* 11 (19.39 and 43-45 K.).

⁹ Galen, *De libr. propr.* 11 (19.40-41 K.). As regards the profound influence on Galen's education of his father, the architect Nico, cf. in particular Nutton (2004) 216-17.

¹⁰ Galen, *De libr. propr.* 17 (19.47 K.).

¹¹ Galen himself actually bitterly contested Thessalus, who stated that physicians had no need to study geometry, astronomy, dialectics or music (*De meth. med.* 1.1 [10.5 K.]).

¹² As regards the importance of books for teaching medicine in Antiquity cf. in particular Marganne (2004).

discussed afterwards by a teacher, as was considered essential in Galen's time,¹³ but also by practical instruction. In this area Alexandria in particular played an essential and pivotal part, which had to help maintain its dominant position. Indeed, Galen, who attached great importance to instruction in anatomy and complained that this had been abandoned at the beginning of the Hellenistic Age, praised Marinus for successfully resuming the study of anatomy in Alexandria in the first half of the second century AD and for producing two worthy pupils, Numisianus in Alexandria and Quintus in Rome.¹⁴ The practical approach to this teaching seems confirmed by further evidence from the *Anatomical Procedures*, where Galen says that students need to learn the shape of each bone, not only from books, but also by studying them with their own eyes. This was very easy in Alexandria, so much so that physicians there included visual observation in their teaching and considered it appropriate to devote oneself to it for this very reason.¹⁵ On the other hand, medical education in Alexandria had a practical side to it as well, and this was in no way at variance with the general formation in cultural matters and equally contributed to the fame and prestige of the city as a seat for medical schools.

Is this context of medical instruction in Alexandria still in place in Late Antiquity? The evidence, though scattered over a variety of different sources, nevertheless seems to permit an answer to this question. Gregory of Nazianzus, for instance, describes the studies of his brother Caesarius, who proceeded to build a glittering career as a court physician and senior official to Constantius II and Valens.¹⁶ Gregory reports that Caesarius' studies in Alexandria included not only medicine, but also geometry, astronomy and mathematics.¹⁷ In particular in the area of astronomy and of 'that science that poses a danger to the others', Caesarius had chosen what is useful, namely, through the harmony and order of the stars, the reverence for God. By contrast, he had avoided what would be detrimental in the teaching of

¹³ As regards literary and archeological testimonies on this topic cf. in particular Andorlini (2003) 12-16, with bibliography.

¹⁴ Galen, *De anat. admin.* 2.1-2 (71-73 Garofalo; 2.280-283 K.); *De plac. Hipp. et Plat.* 8.1.6 (5.650 K.). As regards Marinus, his school and his connection with the works of Galen cf. in particular Nutton (1993) 11-31; Grmek & Gourevitch (1994) 1491-1528; Schlange-Schöningen (2003) 90-91; Nutton (2004) 213-214.

¹⁵ Galen, *De anat. admin.* 1.2 (7 Garofalo; 2.220-221 K.).

¹⁶ Cfr. Seeck (1897); *PLRE I Caesarius* 2; Hauser-Meury (1960) 48-50; Calvet-Sebasti (1995) 46-51.

¹⁷ Gregorius Nazianzenus, *Orationes* 7, 7, PG XXXV 761 (= 'Sources Chrétiennes', N°. 405, p. 194); cfr. *Anthologia Palatina* 8.91-92.

this subject, and he did not attribute to the course of the stars what is and what is to come, as others did, who set the creation against the Creator, but ascribed the movement of the stars to God as well as everything else.¹⁸ This 'science that poses a danger to the others' was the art of divination based on astrology,¹⁹ which Caesarius had studied because of its use in the medical domain, most likely for the possibility it offered of predicting the course and outcome of diseases.²⁰ Gregory then states that Caesarius' excellence in philosophy had won him specific honours from the Senate of Constantinople, and the position of court physician.²¹ In addition, Libanius states that his student Olympius, who had also been a physician at the court of Constantius II, was a real expert in grammar, rhetoric and philosophy.²²

Other noteworthy information can be found in Eunapius of Sardis, who wrote biographies of Neoplatonist philosophers towards the end of the fourth century. He was very well-versed in medicine, albeit only in an amateur capacity,²³ and wrote biographies of several physicians who had Neoplatonist connections as well. Thus in his treatise on Magnus of Nisibis, at the time the most renowned physician in Alexandria on account of his teaching,²⁴ Eunapius tells us that Magnus was equally well-versed in philosophy and rhetoric and notes his ability to convince patients who were in the care of his colleagues that they were still ill, something he achieved by the power of his rhetoric alone.²⁵ Magnus' excellence in this area is confirmed by the poet Palladas, who imagined Magnus descending into Hades in order to overcome death by his arguments.²⁶

Another source of significant information is Eunapius' short biography of Ionicus of Sardis, a student of Zeno of Cyprus, who was

¹⁸ Gregorius Nazianzenus, *Orationes* 7, 7, PG XXXV 761 (= 'Sources Chrétiennes', N° 405, p. 194); cf. *Anth. Pal.* 8, 91-92.

¹⁹ Cf. Calvet-Sebasti (1995) 194-195, note 1.

²⁰ Cf. Marasco (forthcoming).

²¹ Gregorius Nazianzenus, *Orationes* 7, 8, PG XXXV 764 = Sources Chrétiennes, N° 405, 198.

²² *Lib. Ep.* 65; 406; 409; 412; 414; 1199.

²³ This is well attested, both by Eunapius himself (*Vitae sophistarum* 23.6.3-8 (100-101 Giangrande), by referring to the treatment he had given his master Chrysantius, and by Oribasius (*CMG* VI.3, 317-318), in the preface of his treatise on medicine in four books justly dedicated to Eunapius.

²⁴ Cf. Eunapius, *Vitae sophistarum* 20 (86-87 Giangrande); *Lib. Ep.* 843; 1208; 1358; Philostorgius, *Historia ecclesiastica* 8, 10, p. 111 Bidez-Winkelmann; Nutton (2004) 299; Leven (2005).

²⁵ Eunapius, *Vitae sophistarum* 20 (86-87 Giangrande).

²⁶ *Anthologia Graeca* 11.281.

famous in his time and had taught at Alexandria as well. Ionicus had studied rhetoric, oratory and poetry and was well-versed in the exegesis of medical texts, even to the extent that his colleagues praised him for his capacity to clarify the teachings of the ancient texts. Ionicus was also well-grounded in the subject of philosophy and in divination (θειασμός), either divination that comes to men of medicine for the prognosis of patients, or divination based on philosophy and meant only for those who are in a position to receive and preserve it.²⁷ This strongly suggests that Ionicus deployed theurgic divination, which is characteristic for the Neoplatonists, for the purpose of medical prognostics, and that he did not perceive a marked difference between this procedure and philosophical divination.²⁸ Ionicus' erudition should not deceive us regarding the topic of his scientific training: indeed, Eunapius stresses that Ionicus used his competence to the full in the domain of medical theory and practice, but he distinguished himself most by his experience in all kinds of fields: he was very knowledgeable in anatomy and had pursued research into the nature of man. Ionicus knew all known remedies, but he had also distinguished himself by his discoveries and his studies into bandages and surgery.

Thus Ionicus' various areas of expertise and the direction of his research confirm that medical training in Alexandria had not departed from its characteristic features and its practical and theoretical outlook: anatomy, surgery, bandages and pharmacology were still taught and the training of physicians was therefore complete both in terms of professional practice and from a theoretical and general cultural perspective.

The career of the heresiarc Aetius provides yet more valuable information: his opponent Gregory of Nyssa accused him of having been the son of a slave, having worked as a goldsmith, swindling his customers, and of having become the assistant of a physician who was preoccupied with financial gain. That way he had succeeded in gaining credibility as a real physician, taking part in the meetings of his new colleagues, and he had made much money.²⁹ This account is clearly

²⁷ Eunapius, *Vitae sophistarum* 22.2.1 (90 Giangrande).

²⁸ Cf. Marasco (forthcoming).

²⁹ Gregorius Nyssenus, *Contra Eunomium* 1, 36-45 (*Gregorii Nysseni opera*, ed. W. Jaeger, I, Leiden 1960, 34-37); cf. also the highly polemical assertions of Theodorus of Mopsuestia (*Contra Eunomium*, fr. I, in: R.P. Vaggione, 'Some Neglected Fragments of Theodore of Mopsuestia's "Contra Eunomium"', *Journ. Theol. Stud.*, N.S. 31, 1980, 410-411). As regards the origins and studies of Aetius cf. in particular Vaggione (2000) 14 ff.; on the polemic on this topic Marasco (2005) 37-38.

inspired by the highly frenetic polemic against an enemy of the orthodox faith – we find a very different version of Aetius' medical views by the church historian Philostorgius, a stalwart of Aetius' heresy.³⁰ He emphasizes the faith, intelligence and perseverance of this man, who had put every effort into his own cultural development: indeed, Aetius had studied logic in Antioch, supporting himself by working as a goldsmith; he then went to Anabarsus, where he became the student of a grammarian, and studied theology in Tarsus and Antioch. Having moved to Alexandria, where he distinguished himself by defeating a Manichean in a public debate, Aetius embarked on the study of medicine in order to attend to the diseases of the body as well as those of the soul. He had been a student of Sopolis, a physician of great fame in those days, and had taken care of his patients without expecting any fee.

This account, interesting as it is for the medical ethics of the age, also confirms the medical curriculum: although Aetius' medical training was inevitably eclectic, he himself had started by studying logic and grammar and his victory in the debate with the Manichean proves his training and expertise in rhetoric. On the other hand, we need to remember that Gregory of Nyssa concluded his account by stating that Aetius had taken a leading part in the doctrinal debates on Arianism as well, which were particularly heated in medical circles.³¹ These debates clearly demonstrate the interest physicians took in theology, but also their rhetorical competence, which was indispensable for participating in discussions.

Finally, a testimony of considerable interest has been passed on to us by Gregory of Nazianzus in his eulogy of Basil, who had distinguished himself by his love of medicine, which he knew and practised.³² Basil had studied rhetoric, grammar, poetry, philosophy and logic in Athens, as well as astronomy, geometry and mathematics, of which he had learned the essentials whilst spurning any unnecessary detail. The need to provide care for the sick had also inspired him to study medicine, which Gregory defines here as a result of philosophy and diligence, to such an extent that he had proceeded to master this art, not only for that which is visible and common, but also for that which constitutes

³⁰ Philostorgius, *Historia Ecclesiastica* 3, 15, pp. 44-47.

³¹ Gregorius Nyssenus, *Contra Eunomium* 1, 45, p. 37 Jaeger.

³² As regards Basil's works on this subject, attested in particular by the creation of a large hospital named 'Basiliad', cf. in particular Fox (1939) 152 ff.; Giet (1941) 419-423; Constantelos (1968) 154-155; Gain (1985) 277-287.

doctrine and philosophy.³³ Despite not being a physician proper, Basil nevertheless had studied the art, with the aim, common among several bishops of his time, of being able to care for the bodies of his flock as well as their souls.³⁴ The syllabus he studied confirms once more what we have seen before, in terms of the subject areas that were covered and the very close connection between the practical study of medicine and that of more theoretical subjects, such as philosophy and logic, or rather 'humanist' subjects, such as grammar, rhetoric, and poetry.

The picture we have just drawn of the medical curriculum in the Roman era is markedly different from the curriculum today, and people today would be surprised by its rather more 'humanist' outlook and by the inclusion, presented as being of the greatest importance, of several subjects that seem to bear little relation to the actual medical profession. These characteristics are nevertheless highly interesting because they draw attention not only to particular requirements, but also to an entirely different attitude with regard to the social role of physicians.

The importance attached, first and foremost, to the study of philosophy and logic reveals the very origins of ancient medicine, which had always been associated with philosophy³⁵ for intellectual reasons, but also because of the prestige it provided to the physician. For this we only need to refer to Galen's activity in this area, who liked to style himself as a philosopher³⁶ and wrote a treatise arguing that the best physician is also a philosopher, in which he maintains in particular that logic is essential for diagnostics.³⁷ He was considered a philosopher by his contemporaries as well as by posterity.³⁸ As late as between the end of the sixth and the start of the seventh century AD, Stephanus, who had studied in Alexandria and wrote commentaries on the works of Hippocrates and Galen, consistently proclaimed himself to

³³ Gregorius Nazianzenus, *Orationes* 43, 23 [Sources Chrétiennes, N° 384, Paris 1992, p. 176].

³⁴ On this topic cf. especially Marasco (2000). In particular, as regards Gregory of Nazianze's very active interest in medicine, cf. Keenen (1941).

³⁵ Cf. in particular Jones (1946); Edelstein (1967) 349-366; Longrigg (1993) passim; Wittern & Pellegrin (1996).

³⁶ He emphasizes in particular that Marcus Aurelius had the habit of calling him 'the first among doctors and the first among philosophers': Galen, *De praecogn.* 11 (CMG V.8.1, 128; 14.660 K.).

³⁷ Galen, *Quod opt. med.* (1.53-63 K.), in particular 3 (1.60 K.); on the subject of Galen's philosophy cf. for instance Temkin (1973); Senzasono (1996); Nutton (2004) 221 ff. As regards his cultural scope cf. also Ieraci Bio (1997).

³⁸ Cf. in particular Scarborough (1981) 1-30; Nutton (1984).

be a 'philosopher'.³⁹ An exception to this was the attitude of some dogmatic physicians such as Thessalus, who claimed he could teach medicine in six months just by disposing of philosophy and logic.⁴⁰ Galen's fierce polemic against this stance and the interests of the other physicians make it clear that this was evidently an extreme position that did not gain wide acclaim.⁴¹

More peculiar seems the role attributed to the subject of letters: grammar, rhetoric, oratory and poetry. This role is a consequence of the conditions under which physicians carried out their activities. Grammar, for instance, was first of all needed not only to speak and write correctly, but also because the exegesis of ancient texts was an essential requirement for a good physician and implied interest and expertise in the areas of linguistics, philology and lexicology.⁴² Furthermore, poetry contributed to general cultural standing, but we should not forget that physicians were also well-versed in the composition of works of poetry: Andromachus the Elder, archiater of Nero, was the author of a treatise on theriac in metric verse, dedicated to the emperor and passed on to us by Galen;⁴³ likewise, Eudemus put the recipe for the theriac of King Antiochus VIII Philometor into verse.⁴⁴ Quintus Serenus Sammonicus' *Liber medicinalis* confirms that this interest extended to Latin literature as well, although whether its author practised the art of medicine remains disputed.⁴⁵

The close connections between rhetoric and medicine, too, remained intact from the classical Greek period until the Roman era. The received opinion was that knowledge of rhetoric, and likewise of philosophy, was necessary for physicians in order to gain superiority over the sciences, which were of interest to a limited number of specialists only, and to attain the cultural level that attracted the highest

³⁹ Cf. Temkin (1991) 228-230; Wolska-Conus (1989 and 1992).

⁴⁰ Galen, *De meth. med.* 1.1 (10.4-5 K.); *Adv. Iulian.* 5 (18.1, 269-272 K.).

⁴¹ By the end of the ancient world, Isidore of Seville (*Etym.* 4.13.2) still considered dialectics indispensable for medicine...*propter infirmitatum causas ratione adhibita perscrutandas atque curandas.*

⁴² As regards Galen's activities in the area of exegesis, cf. for instance Manetti & Roselli (1994) 1557-1565; with respect to the works and method of Herotien Manetti (1999). Isidore of Seville (*Etym.* 4.13.1) still said: *Nam et Grammaticam medicus scire debet, ut intellegere vel exponere possit quae legit.*

⁴³ Galen, *Antid.* 6 (13.34-42 K.); cf. Marasco (1998) 252 (n° 22) on this person.

⁴⁴ Galen, *Antid.* 14 (14.185-186 K.). As regards Eudemus cf. Marasco (1998) 254 (n° 30). Galen also reports on other recipes for theriacs that have been put to verse: *Antid.* 14-17 (14.191-203 K.).

⁴⁵ Cf. recently Ruffato (1996) 7 ff. and note 1 with bibliography.

esteem.⁴⁶ However, it seems that rhetoric was essential in the eyes of ancient physicians for rather more important and practical reasons.

Firstly, from the classical period onwards, rhetoric was deemed a necessary requirement for practising medicine. Plato, for instance, reports that the sophist Gorgias of Leontini frequently accompanied his brother Herodicus and other physicians on their visits to patients who refused to take their prescribed medication or to agree to an operation or cauterisation, and he persuaded them with his rhetorical skills.⁴⁷ Good rhetorical skills served physicians well for persuading their patients of the necessity of therapies, but also of the physician's expertise vis-à-vis his colleagues. Numerous passages in Galen bear witness to his arguments with colleagues at patients' bedside, disputes about prognosis and treatment, and efforts to convince patients of his superior knowledge, and in all these situations rhetoric was essential. Further evidence is provided by Eunapius' eulogy of Magnus of Nisibis, in which the sophist praised Magnus' command of the fine art of rhetoric, which allowed him to convince patients who had been treated by his colleagues that they were still ill.⁴⁸

There was also another reason why perfect knowledge of rhetoric and oratorical skills was an imperative to physicians. These skills were by no means a marginal requirement, but rather a decisive factor for professional success. Ever since the classical era, the selection of public physicians had been determined by the city councils, and being a good speaker in front of such gremia was essential.⁴⁹ This situation continued in the Roman era, with the addition of yet other requirements of both a professional and a social nature. Galen's activities bear witness to the vital importance of medical demonstrations, delivered in public, of theoretical argumentation or practical performance, in particular by the dissection of animals. These attracted a well-educated audience, often gave rise to debates and even arguments and polemics, and determined to a large extent the reputation of a physician.⁵⁰ Galen himself confirms the importance of these demonstrations for his own fame,⁵¹ but he was by no means the only one: many literary and epigraphic sources confirm that this was common practice and widespread throughout the

⁴⁶ Cf. Marrou (1950) 268. According to Isidore (*Etym.* 4.13.2), physicians must know rhetoric... *ut veracibus argumentis valeat definire quae tractat.*

⁴⁷ Pl. *Grg.* 456b.

⁴⁸ Eunapius, *Vitae sophistarum* 20 (86-87 Giangrande).

⁴⁹ Cf. for instance Jouanna (1992) 113 ff.

⁵⁰ On this subject cf. in particular Debru (1995) 69-81.

⁵¹ Galen, *De libr. propr.* 2 (19.20-22 K.).

Hellenistic and Roman period.⁵² In addition to this, there were other occasions that made more agonistic demands. Inscriptions from Ephesus mention regular two-day medical contests being held on the occasion of the festivals for Asclepius. Participants competed in four areas: *suntagma*, *cheiourgia*, *problēma*, and *organa*.⁵³ Although the exact meaning of these words is disputed,⁵⁴ it is clear that the purpose of the exercise was to give a public demonstration of skills related to the medical profession: in order to win the competition, good speaking skills were equally important as scientific knowledge. It seems that it was professional requirements, rather than the desire to show one's excellence at a cultural and social level, which made knowledge of rhetoric necessary.

The study of the more scientific subjects, on the other hand, focused on mathematics, geometry and astrology. This was peculiar to medical studies, as the interest in the sciences as part of education was on the whole rather more limited in Antiquity,⁵⁵ but in this case it was more about practical requirements than about aspirations to attain encyclopaedic knowledge. Geometry was necessary for knowing the nature of regions and the condition of places,⁵⁶ mathematics for calculating the course that diseases take as well as periods of treatment,⁵⁷ and, finally, astronomy was deemed indispensable for physicians from the classical era: the author of *Airs waters places* insisted that perfect knowledge of the changes of the seasons as well as the rising and setting of the stars was necessary and that astronomy significantly contributed to medicine, since when seasons change, the entrails of people change correspondingly.⁵⁸ Isidore shared this opinion, as is clearly shown in a specific passage,⁵⁹ and it is well known that astronomy, especially during the Christian period, played a vital part in

⁵² Cf. for instance J. & L. Robert, *Bull. Épigr.* 1952-1958, 336; Nutton (1979) 187-188; Jouanna (1992) 109-124.

⁵³ Keil (1905) = *Inscr. V. Ephesos* 1161-1169; 4101b.

⁵⁴ Cf. in particular Horstmannshoff (1990) 182; Nutton (1995) 7-8.

⁵⁵ Cf. in particular Marrou (1950) 252 ff.

⁵⁶ Isid. *Etym.* 4.13.3: *Non aliter et Geometriam propter qualitates regionum et locorum situs, in quibus doceat quid quisque observare oporteat.*

⁵⁷ Cf. Isid. *Etym.* 4.13.2: *Sic et Arithmeticam (sc. medicus scire debet) propter numerum horarum in accessionibus et periodis dierum.*

⁵⁸ Hipp. *Aer.* 2; cf. in particular Phillips (1983) 427-434; Jouanna (1992) 305 ff.

⁵⁹ Isid. *Etym.* 4.13.4: *Postremo et Astronomiam notam habebit, per quam contempletur rationem astrorum et mutationem temporum. Nam sicut ait quidam medicorum, cum ipsorum qualitibus et nostra corpora commutantur.*

the treatment of many diseases, in particular epilepsy.⁶⁰ In Egypt and elsewhere it steadily gained in importance, especially from the fourth century AD, as a result of the widespread rise of 'iatromathematics'.⁶¹ It is understandable that in order to fulfil all the requirements, careful study of mathematics and astronomy was considered necessary, both in their own right and in relation to each other.

The picture we have just painted of medical teaching in the Eastern Roman Empire seems to be confirmed once more by another piece of evidence for the persistence of the requirements and interests examined above. This concerns a study of the curriculum at Alexandria as late as in the sixth and seventh century, based on Arab sources,⁶² which testifies to the persistence, still under Arab domination, of the ideal of the 'physician-philosopher' who attained the highest level of perfection by studying logic, mathematics, physics and metaphysics as well. By contrast, the 'practitioner' was chiefly trained in medicine, but he had to have some basic knowledge of logic and physics as well.⁶³ Later still, the Egyptian 'Alī Ibn Riḍwān al-Misrī, playing down the importance of grammar, considered the study of arithmetics, geometry, logic and astrology essential and particularly stressed the practical importance of these sciences for physicians.⁶⁴ Similarly, in the Renaissance period, medical training in the West included the study of logic, philosophy, geometry and mathematics, although rhetoric was not considered necessary for a good physician.⁶⁵

The context of the formation of physicians in the Roman era demonstrates that the dichotomy and even the contrast between the sciences on the one hand and the humanities on the other were completely unheard of in Antiquity. This dichotomy was a consequence of a different outlook on research but also teaching that started in the middle of the nineteenth century, and whose consequences are still felt in our world today.⁶⁶ By contrast, the connection between the two cultural areas of the sciences and humanities was very strong (indeed, in the medical domain it was not felt that there were two cultural areas), for social and intellectual reasons, but also, I would say, for practical

⁶⁰ Cf. Temkin (1971) 92-96; Wohlers (1999) 49-64; 105-121; 181-200.

⁶¹ Cf. in particular Festugière (1944) 89 ff.; Cramer (1954) 188 ff.; Gundel & Gundel (1966) 16 ff.

⁶² Iskandar (1976) 235-258.

⁶³ Iskandar (1976) 240-241.

⁶⁴ Iskandar (1976) 247-255.

⁶⁵ Cf. Siraisi (1990), 66 ff.; MacLean (2002), 101 ff.

⁶⁶ Cf. for instance Gourevitch (2003); Foschi (2004), with bibliography.

reasons, related to the usefulness of 'humanist' subjects for the physicians' activities. This situation contributed considerably to opening up the highest social and cultural levels of society to physicians, but also inspired physicians to adopt a less technical and more humane attitude in their contacts with patients – an ideal which the Romans aptly expressed in the term *medicus amicus*.

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III. Teaching of surgery and obstetrics

The Teaching of Surgery

Elizabeth Craik

Summary

In the first part of the paper, the widespread and enduring tradition that Asclepius was taught medicine by Chiron, with whom he had a quasi-filial relationship, is examined. In the second part, on the basis of language used by the Hippocratic writers, especially in the deontological and surgical works, some deductions are made about methods of and attitudes to teaching and learning. The nature of Hippocratic surgery is discussed and two types of surgical treatise are distinguished. Finally, these questions are addressed: who wrote and for whom; why, when and where?

Fons et origo

For the Greeks, the quest for a *πρῶτος εὐρετής*, ‘first discoverer’ or ‘inventor’ was a common intellectual pursuit, and it was common to classify thinkers in master-pupil relationships. Traditions of Chiron the centaur, just and wise culture-hero and educator, can be related to these twin tendencies. Such traditions begin early and are enduring. Chiron was first to teach not only medicine but many other *technai* also (discussed below); it seems likely that the name Chiron stems from root *χεῖρ* ‘hand’. That *χειρουργία* ‘hand-work’ came to have the specific meaning ‘surgery’ indicates a view of medical practice as *technē* par excellence deeply embedded in Greek thought patterns, indeed in the language itself.¹

¹ Among medical words of the same root, the verb *χειρίζειν* was widely used, especially of surgery but also of medical practice more generally; the substantive *χειροτέχνης* was a neologism, reflecting self-consciousness in the developing *technē* of medicine (Hipp. *VM* 1.7 [1.570 L., 584 L.]; *Aff.* 1.45 [6.208 L.; 254 L.]).

According to Homer, Chiron had given φάρμακα, ‘soothing cures’, ‘medicinal plants’ to Asclepius² and had taught Achilles about φάρμακα;³ they passed on their knowledge to Machaon and Podalirius, and to Patroclus, respectively.⁴ Doctors were marked by their knowledge of many φάρμακα⁵ and the quintessential activities of the Homeric doctor, said to be ‘worth many men’, were ‘to cut out arrows and to apply soothing φάρμακα’.⁶ The very name Machaon, from root μάχεσθαι ‘fight’, suggests a fighter and Machaon is presented not primarily as a doctor, but as a warrior leader with medical skills. Other chieftains too, including Eurypylus, attend their wounded comrades.⁷ Machaon’s method – draw out the arrow, suck out blood, then apply soothing φάρμακα⁸ – is closely paralleled by the method of Patroclus, who in treating Eurypylus cuts out the missile, washes the wound and applies a root which has pain-relieving and blood-staunching properties, also by Apollo treating the gods.⁹ Podalirius is not seen in action. The Asclepiadae come from Tricca, Ithome and Oechalia (Catalogue of Ships)¹⁰ and other heroes with special medical skills, such as Eurypylus, come from various other kingdoms in the region later known as Thessaly. One prominent Thessalian hero, Philoctetes, is not – so far as our evidence goes – associated with Chiron. However, he well knew which medicinal plants would soothe his wound, ultimately to be healed by the ‘Asclepiadae’ at Troy.¹¹

Hesiod refers several times to Chiron as teacher of various Thessalian heroes, including Jason and Achilles.¹² Among works attributed to Hesiod was a didactic poem expressing ‘precepts’ of Chiron, supposedly addressed to Achilles.¹³ The term in the supposed title, ὑποθήκαι ‘precepts’, is sometimes used of medical prescription

² Hom. *Il.* 4.218-219.

³ Hom. *Il.* 11.831-832.

⁴ See Nutton (2004) 37-40 for an excellent survey of Homeric medicine; also Edelstein & Edelstein (1945) 2, 32-36, T 50-62 on Chiron in Homer (but Asclepius is oddly regarded as Chiron’s equal).

⁵ Hom. *Il.* 16.28.

⁶ Hom. *Il.* 11.514-515.

⁷ Hom. *Il.* 16.23-29.

⁸ Hom. *Il.* 4.218-219.

⁹ Hom. *Il.* 11.842-848 etc.

¹⁰ Hom. *Il.* 2.729-733.

¹¹ S. *Ph.* 1329-1334.

¹² Merkelbach and West, fragments. 40, 204. 87-88; cf. *Th.* 1001-1002.

¹³ Σ Pi. *P.* 6.19; Isoc. 2.3, cf. 43; Paus. 9.31.5; Quint. *Inst.* 1.1.15.

(as by Galen in *On the Preservation of Health*)¹⁴ but might have more general reference. The θεραπῆια νόσων βίβλοις ἐν πινυταῖς Χειρωνίσι τεσσαράκοντα ‘treatment of diseases in forty clever Chironian books’ attributed in an epitaph to the physician Marcellus of the time of Hadrian is a learned allusion to this tradition,¹⁵ as is the description of Chiron as ἀοιδός ‘bard’ in a fourth century metrical inscription (*SEG* 1.248),¹⁶ unless perhaps the word there is equivalent to ἀοίδιμος ‘famous’.

Pindar, imbued with old poetic and mythic traditions, makes more extended reference to Chiron, sympathetically described as ‘teacher’ or ‘nurturer’ not only of Asclepius but of various Thessalian heroes, including Peleus, father of Achilles;¹⁷ these references are amplified by scholiastic comment and corroborated by such later sources as the mythographer Apollodorus. Apollodorus consistently portrays Chiron in a protective, quasi-paternal relationship with the heroes, especially Peleus and Achilles to whom he was in some traditions related;¹⁸ he effected amazing cures,¹⁹ but was unable to cure his own wound, despite help from Hercules, who applied a φάρμακον provided by Chiron himself) and so gave up his immortality.²⁰ Xenophon’s *Cynegesia*, a work on hunting, begins with a long list of Chiron’s pupils in many crafts, and alludes to his longevity and ‘justice’.²¹ The name of Chiron appears in a potted history of medicine at the beginning of a work of Galenic date transmitted in the Galenic corpus.²²

In sum: the centaur Chiron, son of Cronus (who took the form of a horse in fathering him by a sea-nymph) inhabited a cave generally placed in remote mountainous regions of Thessaly; his numerous pupils included Asclepius, Peleus (a name probably connected with Mount Pelion, though the expected formation would be Pelieus), Telamon, Achilles, Jason, Aristaeus and Actaeon. Through these pupils, Chiron

¹⁴ Galen, *De san. tuenda* 5.1 (6.307 K.).

¹⁵ *Anthologia Palatina* 7.158.

¹⁶ For first publication, see Giannopoulos (1912) 668-669.

¹⁷ *Pi. P.* 3.4.9; *N.* 3.4; *I.* 8.

¹⁸ *Apollod.* 2.13.3-6; *Σ Pi. N.* 5.57. On the tradition that Chiron was grandfather of Peleus and Telamon see J.G. Frazer, *Apollodorus*, *The Library*, Loeb tr. vol. 2 (repr. 1970) 53 note 6.

¹⁹ For blindness, 3.13.8.

²⁰ *Apollod.* 2.5.4; cf. 2.5.11.

²¹ But see E.C. Marchant, Xenophon, *Scripta Minora* Loeb tr. vol. 7 (repr. 1971) introduction xlii-xliii for the argument that this section is intrusive and of a much later date, from the time of the second sophistic.

²² Pseudo-Galen, *Introd. s. medic.* 1 (14.675 K.).

might be regarded as originator of many *technai*: not only of medicine (Asclepius) but also of seafaring (Jason), pastoral farming (Aristaeus)²³ and hunting (Actaeon).²⁴ Chiron is ambivalently, or successively, man and god.²⁵ The name of Chiron's consort, Chariclo, appears painted, with that of the ancient hearth-goddess Hestia, on an early sixth century Attic vase.²⁶ There is early evidence for hero cults of Chiron, as of Achilles, Jason and Peleus.²⁷ The name of Chiron appears in a primitive rock inscription at Thera.²⁸ A fourth century inscription from a mountain cave near Pharsalus records worship of Chiron with the Nymphs and other deities.²⁹ In medicine, his continuing place is confirmed by names of types of wound and especially of the plant known as *cheironias* or *kentaureion*.³⁰ At least one medical family traced their descent from him, the Chironidae among the Magnetes in eastern Thessaly.³¹ In all this evidence, which is tenuous and nebulous but of great Antiquity and longevity, there are persistent connections with the cults and myths of Thessaly, which through Eurypylus had early connections with Kos, and which was a region of enduring importance in the history of Greek medicine.

I end this section with an intriguing quotation from Hyginus (second century AD) on the subject of 'who invented what': *Chiron Centaurus Saturni filius autem medicinam chirurgicam ex herbis primus instituit; Apollo autem oraculariam (Craik, codd. oculariam) medicinam primus fecit; tertio autem loco Asclepius Apollinis filius clinicen repperit* 'Chiron the Centaur, son of Cronus, was first to practise surgery using plants, then Apollo was first to carry out oracular medicine, and in the third place Asclepius son of Apollo innovated clinical medicine' (274.9 Rose). Surgery (*pace* Rose *ad loc.*) is not problematical; it is evident that the medicine of Chiron, with its strong reliance on herbal lore (*herbae* = φάρμακα) corresponds to that described in the *Iliad*. The 'oracular medicine' of Apollo corresponds to practices at shrines where the element of prognosis, so important in early medical texts, was allied

²³ Cf. A.R. 2.510.

²⁴ Cf. Apollod. 3.4.4.

²⁵ Apollod. 2.5.4.11; Paus. 5.19.9.

²⁶ See Jeffrey (1961) plate 2, 14a.

²⁷ Farnell (1921) 310-311.

²⁸ IG XII 3.360. Cf. Craik (2005) 204.

²⁹ SEG 1.248.

³⁰ Cels. 5.28.5; Galen, *Antid.* 14 (14.186 K.); also Theophrastus, Pliny the Elder, Dioscorides.

³¹ FGH 2.263, Dicaearchus fr. 61.

with divination.³² And the ‘clinical’ invention of Asclepius is the treatment of illnesses where the patient lies in a κλίνη ‘sickbed’. The division is in accord with other evidence, and offers a credible history of early Greek medicine. Chiron, founder of all-important χειρουργία, can be described as the *éminence grise* of the Greek medical tradition.

The Hippocratic Corpus

The verb διδάσκειν ‘teach’ occurs three times at the beginning of the Hippocratic *Oath*³³ in the context of quasi-filial obligations due to teachers in medicine: the object is τέχνη ‘art’, ‘craft’, ‘skill’ of medicine, twice expressed and once understood (‘I swear ... to consider the man who taught me medicine on a par with my parents ... and to teach medicine ... to my sons and to the sons of the man who taught me ...’). The exact nature of this teaching is unspecified, but the tenor is plain. However, although the *Hippocratic Corpus* contains much didactic material, this (common) verb is not common in it overall. Unsurprisingly, παιδεία and words of that root, referring to non-vocational and non-practical education, occur even less often; but occasionally *paideia* is used as a synonym for *technē*.³⁴

The verb διδάσκειν frequently has an abstract subject: αὐτὴ ἡ συμφορὴ ‘the situation itself’ teaches;³⁵ ἢ τε ἀνάγκη καὶ ὁ χρόνος ‘necessity and time’ teach;³⁶ ἡτρικὴ ‘medicine’ teaches.³⁷ Where there is a personal subject, the person who ‘teaches’ is commonly not a doctor: in polemical passages of *Regimen* it is stated that practitioners of παιδοτριβίη teach various kinds of unscrupulous and dishonest conduct³⁸ and that dream interpreters recommend the practice of φυλάσσεσθαι ‘cautious action’, but do not teach a method of it.³⁹ Where the author himself claims to teach, he is concerned with theory rather than practice: καθ’ ἕκαστα δὲ ἥντινα δύναμιν ἔχει διδάξω, ‘I shall teach the power of foods and drinks individually’, that is in a way

³² See Craik (2006).

³³ Hipp. *Jusj.* (4.628-630 L.).

³⁴ E.g. Hipp. *De Arte* 9 (6.16 L.).

³⁵ Hipp. *Art.* 52 (4.228 L.).

³⁶ Hipp. *Mul.* 1.62 (8.126 L.).

³⁷ Hipp. *Loc. Hom.* 46 (6.342 L.).

³⁸ Hipp. *Vict.* 1.24 (6.496 L.).

³⁹ Hipp. *Vict.* 4.87 (6.642 L.).

superior to that of those writing of foods and drinks in general terms;⁴⁰ ἄρξομαι δὲ διδάσκων ἀπὸ τοῦ ὑγροῦ κατὰ φύσιν ‘I shall begin teaching from the naturally moist in constitution’;⁴¹ there is a similar programmatic statement at the start of both *Sacred Disease*⁴² and, with reference to the complementary teaching of other medical works, of *The Art*.⁴³ In one passage, it is laymen who are taught: τοῦτο τὸ τεκμήριον διδάσκω τοὺς ἰδιώτας ‘this is the sign I teach laymen’.⁴⁴ The aim in *Fractures* is to ‘unlearn’ as well as to ‘teach’; even here this is with reference to theoretical knowledge of the anatomy of the hand, rather than to putting this knowledge into practice.⁴⁵

References to ‘teaching’ in the Corpus reveal little about how medicine was taught, but much about attitudes to training and practice. These ideas recur: the nature of the trainee must be considered; judgment is necessary for success; experience is as important as theoretical knowledge.⁴⁶ Direct allusion to teaching comes embedded in discussion of the nature of the *technē* of medicine, allied with notions of ‘discovery’ similar to those discussed above, and with the argument that medicine cannot be taught; see especially passages of *Places in Man* and of *Ancient Medicine*.⁴⁷ Doctors claiming that medicine cannot be taught are similar to philosophers (Socrates, as represented by Plato) claiming that virtue cannot be taught. And in some Hippocratic works, the language used by doctors of themselves and their opponents, is rather similar to the language used by ‘philosophers’ of themselves in relation to ‘sophists’.

The deontological works *Decorum* and *Precepts* are generally treated as ‘late’, probably rightly; but at the same time both seem to incorporate ‘early’ material and to echo debates of the fifth century on the relative value of nature and nurture.⁴⁸ Thus the author of *Decorum* argues that personal ‘nature’ is necessary for progress in ‘crafts’: ἀδίδακτον γὰρ τὸ χρέος ἔν τε σοφίῃ καὶ ἐν τῇ τέχνῃ (‘the needful in

⁴⁰ Hipp. *Vict.* 2.39 (6.536 L.).

⁴¹ Hipp. *Nat. Mul.* 1 (7.312 L.).

⁴² Hipp. *Morb. Sacr.* 1 (6.352 L.).

⁴³ Hipp. *De Arte* 3 (6.4 L.).

⁴⁴ Hipp. *Vict.* 3.68 (6.598 L.).

⁴⁵ Hipp. *Fract.* 1 (3.414 L.).

⁴⁶ Hipp. *Flat.* 1 (6.92 L.), *Acut.* 39 (11, 2.316 L.) and, especially, *Decent.* 4 (9.230 L.) etc., *Praec.* 13 (9.268 L. etc.).

⁴⁷ Hipp. *Loc. Hom.* 41.46 (6.330 L.; 6.342 L.); *VM* 1.12 (1.570 L.; 1.596 L.).

⁴⁸ Both works are corrupt and in need of re-editing. On their date and nature, see Jones (1967) 273 for a perceptive but over-ingenuous discussion.

skill and craft cannot be taught').⁴⁹ Overall, the passage seems to be a diatribe against would-be educators who place their reliance in words alone – it is a sign of ignorance and lack of professionalism to think and not to act; speech that arises from taught action is good; clever speaking without action is bad. A series of oppositions is implicit: nature ~ education; practice ~ theory; action ~ reflection; doing ~ speaking.⁵⁰ Similar oppositions can be seen in *Precepts*: nature can be stirred and 'taught' by multitudinous multifarious things, where there is compulsion.⁵¹ In less polemical contexts too it is recognized that γνώμη and χειρουργία are different skills, respectively theory and practice.⁵²

The description in *Decorum* of men motivated by αἰσχροκερδεΐη καὶ ἄσχημοσύνη 'base, venal and disreputable concerns', ἀγορὴν ἐργαζόμενοι 'working the agora' and ἐν πόλεσιν ἀνακυκλέοντες 'traversing cities', might be applied verbatim to the fifth century sophists; further, the description of the reactions of the populace to such people – a progress from youthful enthusiasm to adult embarrassment and finally, in old age, to such bitterness that they legislate for their expulsion from the city – is very apt to their followers.⁵³ Similarly, the disparaging remarks in *Precepts* about display in flowery lectures recalls Plato's strictures against such sophists as Prodicus;⁵⁴ τριβή 'experience' is more useful than δόγματα 'opinions'.⁵⁵ In the *Law* (frequently linked with the *Oath*, but more reflective in character), debate on the *technē* of medicine centres on the qualities required for medical expertise and understanding: innate ability, proper instruction and diligence.⁵⁶

In the short tract *Physician*, probably earlier in date than *Precepts* and *Decorum*,⁵⁷ the qualities of appearance and character desiderated in the ideal doctor and the essential elements of basic medical education are set out (orientation of the surgery, proper ways of bandaging and appropriate types of instrument): here too, vulgar bravura is criticized; medicine demands not display but practical aid for the patient. In these directions for trainees the language is revealing: 'teaching' is not

⁴⁹ Hipp. *Decent.* 4 (9.230 L.).

⁵⁰ Hipp. *Decent.* 1-4 (9.226-232 L.).

⁵¹ Hipp. *Praec.* 1 (9.252 L.).

⁵² Hipp. *Morb.* 1.6 (6.150 L.).

⁵³ Hipp. *Decent.* 2 (9.226-228 L.).

⁵⁴ Hipp. *Praec.* 12 (9.266-268 L.).

⁵⁵ Hipp. *Praec.* 13 (9.268-270 L.).

⁵⁶ Hipp. *Lex* 1-5 (4.638-642 L.).

⁵⁷ See Potter (1995) 299.

mentioned but ‘learning’ is (9 etc.); more important than either of these is παραγγέλματα ‘tradition’ of the *technē* (2). The same expression occurs in *Decorum*.⁵⁸ It is in the nature of the *technē* that it is absorbed by osmosis and imitation; the tyro must look, learn, do likewise. Even surgery, the most specialized aspect of medicine, was not formally taught.

It is sometimes suggested that the treatises are written as recruitment brochures. Rather, it seems to me that they are criticisms of others who advertise, and of formal teaching, seen as meretricious. And if they seek to recruit, it is to an informal associative method of learning (see below on ὁμιλία ‘association’). The suspicion of word-based education is in line with suspicion of the type of education purveyed by the sophists. Right thinking is compromised by formal education and cleverness in expression is mistrusted. Through popular nervousness about the dangers of unscrupulous teaching, the verb ‘teach’ itself carried a risk of pejorative overtones; thus, διδακτὴ κατασκευὴ is ‘over-studied’ or ‘contrived’ self-presentation.⁵⁹

Potentially pejorative overtones were carried also by the word λόγος ‘word’ opposed to ἔργον ‘action’ and νόμος ‘system of beliefs’.⁶⁰ *Logos* is the mot juste for a medical treatise,⁶¹ and by definition we know only those doctors who chose to write and present themselves in their *logoi*. (I exclude the composite aphoristic works: they too come to us by *logos* in the sense ‘word of mouth’: I do not wish here to enter into the orality ~ literacy question).⁶² The writer of *Fractures* and *Articulations*, deeply imbued with these ideas and debates, cleverly situates medical writing in the context of contemporary controversy and capitalises on popular prejudices to enhance his own reputation. The author is well aware of the overtones of the word *logos*: the telling claim is made that ‘this *logos* is set down as a *dikaïos nomos*’.⁶³ Although he is writing a *logos* he carefully states that it is not enough to know the *technē* by *logos*; it is necessary also to ὁμιλῇ ὁμιλεῖν

⁵⁸ Hipp. *Decent.* 12 and 17 (9.240 L.; 9.242 L.).

⁵⁹ Hipp. *Decent.* 3 (9.228 L.).

⁶⁰ These words are ubiquitous in debates on right and wrong; the conflict between just and unjust expression has its most celebrated presentation in Aristophanes’ *Clouds*. For similar terminology in tragedy, see Craik (1980).

⁶¹ Hipp. *Fract.* 19 and 31 (3.482 L.; 3.526 L.); *Art.* 9.40, 45 (4.102 L.; 4.174 L.; 4.190 L.).

⁶² On this question, see Dean-Jones (2003).

⁶³ Hipp. *Fract.* 7 (3.442 L.).

‘participate in association’;⁶⁴ both verb and substantive are used of doctor-patient relationship;⁶⁵ but also of master-disciple association.⁶⁶

Fractures begins with disparaging remarks on ἰατροὶ σοφίζόμενοι ‘over-contrived’ or ‘know-all’ doctors who go wrong (δῆθεν contemptuous and ἄρα inferential) through their preconceived theories: they fail to observe the obvious position of the arm and despite their reputation as ‘wise’ should be considered ‘ignorant’. In the ensuing content, there is frequent use of such derogatory terms. In both *Fractures* and *Articulations* the term δικαίη φύσις is used for the natural and proper position of the bone or limb prior to accident (with δικαίη φύσις);⁶⁷ cf. δικαιοτάτη κατάστασις⁶⁸ and treatment is described by the same adjective, ‘just’, ‘in the right way’.⁶⁹ The literal sense of δίκαιος (δίκη ‘way’, ‘path’) is implicit, but it is deployed here in a manner suggestive of moral superiority; it is notable that 21 of 33 occurrences of the adjective in the *Hippocratic Corpus* come from *Fractures*, *Articulations* and *Mochlicon*. Our writer knows what is ‘just’, while inferior practitioners, despite their claims, are ‘sophistic’ and ignorant. In the era of sophistic teaching, clever speech came to be regarded as incompatible with just action. Relations between doctors, sophists and the philosophical schools were evidently complex, and these categories overlapped. Gorgias’ brother was a doctor; Plato and Aristotle both had strong connections with medical practice.

Hippocratic surgery is not just cutting and burning but includes orthopaedics. Erotian classifies surgical works in the ‘therapeutic’ category, categorised as first surgical then dietetic. Surgery was practised in two types of travel situations: in war and at the national games (where the surgery resembles perhaps a red cross tent). In civic situations it was practised especially at gymnasium and palaestra (and there was a central place in the city for the office of the prestigious public physician).⁷⁰ The practice of the ἰατρεῖον ‘office’ in the case of less important doctors can be seen in *Surgery*: the doctor’s office is merely a suitable room in the home where father and son(s) worked with their assistants. The ms reading δεῖ δὲ πρῶτον μὲν τόπον ἔχειν

⁶⁴ Hipp. *Art.* 10 (4.102 L.).

⁶⁵ Hipp. *Medic.* 1-3 (9.206 L.; 9.208 L.); cf. Pl. *R.* 408d.

⁶⁶ X. *Mem.* 1.2.15.39.

⁶⁷ Hipp. *Fract.* 1 (3.414 L.).

⁶⁸ Hipp. *Fract.* 8.41 (3.444 L.; 3.550 L.).

⁶⁹ Hipp. *Fract.* 7 (3.442 L.).

⁷⁰ See Jouanna (1999) 76-77, 80-100.

τῆς οἰκίης ‘first, it is necessary to have a place in one’s house’⁷¹ ought to be kept, and Littré’s emendation οἰκεῖον ‘suitable’ discarded.

A degree of specialization is evident: *Wounds in the Head* is a manual for military surgeons and the lost work on wounds known to Erotian was probably rather similar (cf. also *Physician*;⁷² *Fractures* and *Articulations* are orthopaedic. In other situations, glimpsed in *Epidemics*, the practice of surgery resembles that of an accident and emergency or a casualty department. Industrial accidents in factories and mines as well as mishaps in or around the home frequently demanded a quick response. Certain chronic conditions required surgical intervention; an impression of these is gained from *Sores*, *Hemorrhoids* and *Fistulae*. Eye surgery, seen in *Sight*, was elective and an exception to the general nature of surgical intervention in emergencies.

Who wrote the surgical works, and for whom; why, when and where? We can only guess. But surely they were always intended as an adjunct to practical instruction, to give at least a general idea how to operate.⁷³ There are two main categories of surgical works: literary and descriptive on the one hand or functional and prescriptive on the other. *Fractures* and *Articulations* have been much praised for their clinical excellence.⁷⁴ The excellence of the Greek prose style has been less remarked, but it is indeed remarkable. Despite the technicality of the content, the style is both clear and elegant throughout, beautifully organized in sentences marked but never marred by such rhetorical devices as (especially prevalent) antithesis, with precise and delicate use of particles. In the prescriptive works by contrast, the syntax is often abrupt and aphoristic, characterized by imperative expressions, nominative and infinitive constructions, much use of such verbs as *χρή* and *δεῖ*, and sequences of instructions introduced by *ἔπειτα* ‘next’, indicating stages in a course of treatment.

Fractures and *Articulations* come at one end of the spectrum of sophistication; *Sight*, with its primitive expression, at the other. *Fractures* and *Articulations* were surely written for posterity. These works seem to have been known in Athens and to have had a seminal influence on writers in other genres: Euripides and Plato apparently

⁷¹ Hipp. *Off.* 2 (3.276 L.).

⁷² Hipp. *Medic.* 11-14 (9.218-220 L.).

⁷³ Hipp. *Art.* 33 (4.148 L.).

⁷⁴ See Adams (1849), Petrequin (1877 and 1878).

drew on *Articulations*.⁷⁵ This is a very important writer. Who? It is unfashionable to ask the question; but where the first person is used, we are dealing with a real author. This author was prolific, as he refers to his own treatises, completed or projected, on a wide range of subjects. Perhaps indeed we have the words of Hippocrates. The very different work *Sight* was perhaps written either for visiting specialists or for a small school, and perhaps in the African continent.⁷⁶ Other works were probably intended for immediate pupils, at least notionally – typically the doctor's son(s) and an associated group. In conclusion, we note that the lack of names of dedicatees is as odd as the lack of names of authors.

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⁷⁵ See Craik (2001a) 90; (2001b) 111-112.

⁷⁶ See Craik (2005).

Teaching Surgery in Late Byzantine Alexandria

John Scarborough

Summary

When one examines Alexandrian commentaries on works of Galen and Hippocrates, disclosed are essential guides to the Art of Medicine as practiced in the late fifth, sixth, and early seventh centuries. These are outlines and contents of a 'medical curriculum' in late Byzantine Alexandria, as well as Ravenna, and thanks to the patient and skilled labors of Dickson,¹ Duffy,² Irmer,³ Palmieri,⁴ Pritchett,⁵ Westerink,⁶ and others, following and building on the pioneering studies of Bräutigam,⁷ Meyerhoff,⁸ and Temkin,⁹ medical historians can now peruse carefully edited Greek and Latin texts and generally reliable translations of some commentaries by Agnellus of Ravenna, John of Alexandria, Palladius, and Stephanus of Athens. Deeply experienced medical practitioners became teachers of would-be medical students in Alexandria and Ravenna. Alexandria had long functioned as a city reputed to be the home of medical instruction,¹⁰ and by *ca.* 550 or slightly later, teachers began to produce commentaries on the classic texts of Greek and Roman medicine, with Galen and Hippocrates as major authorities. Underpinning what the medical professors set down in their commentaries were extended lives spent in the actual practice of medicine, sometimes as military physicians (as may have been the case of Paul of Aegina in the early seventh century), sometimes as doctors who had gained lengthy experience in Alexandria itself, and sometimes as medical professionals who had emigrated to Egypt after successful careers in another part of the Greek-speaking eastern Roman

¹ Dickson (1998).

² Duffy (1983) and with others (1997).

³ Irmer (1977).

⁴ Palmieri (2005).

⁵ Pritchett (1975) and (1982).

⁶ Westerink and others (1981) and (1985-1995).

⁷ Bräutigam (1908).

⁸ Meyerhoff (1930), (1931) and (1933).

⁹ Temkin (1932), (1935; repr. 1977) and with reassessments (1991).

¹⁰ Among many: Bliquez & Oleson (1994), Fraser (1972), Gaide (1998), Nutton (1972 and 1993), Roselli (1998), Stok (1998), Touwaide (1998), Vallance (2000), and von Staden (1975, 1989, and 2004).

Empire. Reflecting time as a medical student and later career in Constantinople, Aetius of Amida's *Tetrabiblon* foreshadows editorial mechanics and techniques of textual exegesis as they emerge more clearly with the medical commentators after 550. It may well be that Stephanus, 'the Philosopher and Physician', was originally from Athens, but whether he was or not, the attribution of an Athenian background suggests that non-Alexandrian physicians either were recruited or that the growing fame of medical instruction attracted accomplished personnel from other cities and provinces of the Empire.

Aetius of Amida as medical student

Alexandria drew many students to study medicine in this era, and Aetius of Amida (*fl.* as a royal physician in the reign of Justinian,¹¹ likely one of the personal physicians to Theodora),¹² is a famous example of such medical apprentices and trainees who had been students at Alexandria, in the early decades of the sixth century.¹³ And through Aetius' extensive *Tetrabiblon*, one gains a good notion of medical subjects taught and authorities employed. Not only were the Galenic writings available for study and commentary, but also there were circulating texts of Antyllus the Surgeon,¹⁴ another surgeon

¹¹ Aët. *Tetrabiblon* 1-4 (8 Olivieri [1935]), app. crit. line 14 (scholion). Du Cange (1886 ed.), 6, p. 20. col. 1, s.v. *obsequium*. Gurlt (1898) 1, p. 544. Bloch in *Handbuch* (1902) 1, 529.

¹² Aët. *Tetrabiblon* 16.14 (866-867 Cornarius) = (more-or-less) Zervos, 16.14 (p. 16) : Aetius on attending childbirths. Aët. *Tetrabiblon* 16.122 (928-929 Cornarius): the *domina* Romula and women at court providing expertise to Aetius (omitted by Zervos). Arguments set forth in John Scarborough, 'Theodora, Aetius of Amida, and Procopius: Some Connections', delivered at the Byzantine Studies Conference, University of Georgia, Athens, Georgia, 27-30 October 2005; in prep. for publication (abstract, text, and 'texts and sources' available on request from the author: jscarboroughpharmacy.wisc.edu).

¹³ Aët. *Tetrabiblon* 1.131 (1,65 Olivieri); 1.132 (*ibidem* 67) ; 2.121 (*ibidem* 197): ...ὥσπερ καὶ τὴν τῶν ἡμέρων ὄντων ἐν Ἀλεξανδρείᾳ...) and 4.22 (*ibidem* 368).) Suggestive is 6.24 (2,167 Olivieri): the Egyptian multi-ingredient κύφι quaffed in treatment for dog-bites resulting in hydrophobia.

¹⁴ Gurlt (1898) 1, 474-484, remains the most comprehensive account. Antyllus prob. *fl.ca.* 200-240 AD, since he postdates Galen and predates Oribasius. Aetius has before him texts of Antyllus' *Head Wounds*, as well as *Collyrium*, *Tablet*, and *Pessary* (Τὸ κολλύριον, ὁ τροχίσκος, ὁ πεσός) accompanied by *Injection/Extraction with Uterine Syringe/Bellows* (ὁ ἐγχυματισμός, τὸ φυσάριον, ὁ μητρεγχύτης) among a number of procedures quite separately from those found in Oribasius. Gurlt (1898) 1, 475-477 (citing texts edited by Lewy in *Janus* 2 [1847], and 3 [1848]).

named Leonides,¹⁵ as well as multiple copies of Soranus, Aretaeus of Cappadocia, and Oribasius and other physicians of the first through the fifth centuries.¹⁶ This suggests a functioning medical library,¹⁷ possibly a flourishing book trade in which tracts were copied on demand and sold to teachers for their notations and to students in summary form for study. Later Arabic texts and traditions indicate that the books assumed to be fundamental textbooks in medicine encompassed all topics necessary for the training of physicians in theory, practice, and therapy; formal instruction was subsumed under the study of particular works and selected treatises from the large collection of tracts under the name of Galen of Pergamon.¹⁸ If our commentaries on the writings of Galen, and later Hippocrates, are typical and indicative, these were *the* textbooks from which the medical professors lectured, but peppered

¹⁵ Leonides of Alexandria *fl. ca.* 180-200 AD in Rome, and appears in the listing of 'unaffiliated' (with any sect) physicians in Pseudo-Galen, *Introd. s. medic.* 4 (14.684 K.). Gurlt (1898) 1, 486-492. Aët. *Tetrabiblon* 14.8 (760 Cornarius) summarizes Leonides' surgical techniques for rectal prolapse, offering his own modifications, similarly for gluteal abscesses (14.9 [760-761 Cornarius]). Aetius interweaves his own experiences within Leonides' account of anal fistulas (14.11 [761-762 Cornarius]); and his commentary interlarded with Leonides' text of *Pudendal Warts/Ulcers*, and *Drugs for Chapped/Cracked Pudenda* (14.14-15 [762-763 Cornarius]) is a personal record. Aetius may have experienced his first 'guinea-worm extraction' (14.85 [815-816 Cornarius]) while a student in Alexandria, and procedures differ from those suggested by Leonides. In the mastectomies, descriptions of breast cancers and 'lumps' in the breasts (16, 40, 43, and 50 [883-884 and 887 Cornarius]) Leonides is the 'authoritative text', but Aetius the court physician has modified a number of procedures and pharmaceutical compoundings.

¹⁶ Tabulation of authorities in Aetius' *Tetrabiblon* is discerned by subsection titles in the sixteen books; Olivieri's well-edited Greek text includes no index, and that of Cornarius is minimal with names, but Cornarius and Olivieri provide the subsection titles as the texts progress. One can, therefore, determine quoted authorities from a 'table of contents' easily compiled from the Greek or Latin.

¹⁷ On the analogy with other 'learned' collections. Pouderon (1994) 163-224. Trapp and Rowlandson & Harker (2004) 113-132 and 79-111. El-Abbadi (2004) 167-183, indicates the long-term influence. Pertinent for the fourth century is Lieu (2000) 127-142. Morgan (2003) 147-161, summarizes authors suggested by the papyri in sixth century Egypt, and Reinink (2003) 163-174 addresses the Nestorians. Large cities were generally known for their substantial collections of books, whether in libraries or otherwise, exemplified by Paul of Aegina's comment that legal and medical activities both were conducted '...in cities where there are quantities of books', but that physicians had also to function where there were no books – in the wilderness, deserts, and even ships at sea. Paul of Aegina, *Seven Books, Prooemium* (1,1,3 Heiberg): ἐκείνους μὲν γὰρ ἐν μόναϊς σχεδὸν ταῖς πόλεσι κατεπεῖγει τῶν πραγμάτων τὸ χρήσιμον, ἔνθα καὶ τῶν βιβλίων ἄφθονός ἐστιν εὐπορία, τοῖς δὲ ἰατροῖς οὐκ ἐν πόλεσι μόνον ἢ ἀγροῖς ἢ καὶ τισὶν ἐρήμοις χωρίοις ἀλλ' ἤδη καὶ κατὰ θάλατταν... κτλ.

¹⁸ Temkin (1932) 74-79. Iskandar (1976) 235-258. Duffy (1997) 9-11, with references.

throughout the expected exegesis are reflections of a physician-teacher's personal experiences, and these provide vivid evidence of how a student was given instruction, both in the classroom and in the actual practice of medicine: the 'system' valued clinical encounters early in a student's career.

Revealing is the *Tetrabiblon* of Aetius of Amida as background to the sixth century commentators and teachers, since his likely time in Alexandria pertinently foreshadows both 'teaching methods' used in the schools as well as the editorial mechanics of how a practicing physician formulated commentaries and exegetical scrutiny of written authorities in light of his own clinical *savoir faire*.¹⁹ There are many

¹⁹ Aetius of Amida has been poorly served by modern editors. The edition of Olivieri in the *CMG* (1935 and 1950) extends only through Book 8 of the *Tetrabiblon* and the generally admirable edited text and German translation (1899) by Julius Hirschberg of Book 7 as *Die Augenheilkunde des Aëtius von Amida* stops abruptly at the end of chapter 90 (Hirschberg grew fatigued from the countless numbers of pharmaceutical recipes, 'Den rest des Kapitels, der nur Recepte enthält, will ich dem geneigten Leser ersparen...' [p. 204]). The remainder of 7.91-117 = Olivieri (1950) 337-399. Books 9, 12, 13, 15, and 16 exist in 'modern' editions that are barely serviceable, and there is no available Greek text for Books 10 (Liver and Spleen Diseases) and 14 (Afflictions of the Buttocks and Rectum, and Diseases of the Male & Female External Sexual Organs; Compounding Plasters from Simples; Treatment of Hemorrhaging Wounds, Inflammations, Abscesses, and 'Old' Ulcers). Book 11 (Kidney and Bladder Diseases; Priapism; Gonorrhea; Impotence) is printed in the Greek (no French translation) in Ch. Daremberg and Ch. Émile Ruelle, eds., *Oeuvres de Rufus d'Éphèse* (Paris 1879; repr. Amsterdam, 1963) 85-126. Thanks to the British Museum (now the British Library) I have procured photocopies of the Greek editions of Books 13 (Toxicology; Poisonous Animals; 'Elephantiasis'; Rashes, Skin Diseases; Theriacs, *Kyphi*-Recipes, Antidotes [ed. Zervos (1905): a synopsis of 30 pp. while Cornarius' 134 chapters. consume 65 folio-sized pages]) 15 (Cancers; Tumors; Indurations [ed. Zervos (1909)]) and 16 (Obstetrics; Gynecology; Abortifacients; Contraceptives; Surgeries for Women [ed. Zervos (1901)]) and the Librarians of the University of Chicago kindly provided a copy of the Greek of Book XII (Sciatica; Coxendal Pains; Gout; Diseases of the Joints [ed. Kostomiris (1892)]). Book 9 (Stomach and Intestinal Diseases [ed. Zervos (1912)]) is, however, so rare that expert interlibrary loan officers here at the University of Wisconsin have been unable to locate a copy anywhere in the world, even though it is listed on p. 9 of Helmut Leitner, *Bibliography to the Ancient Medical Authors* (Bern 1973); a copy must have existed in Vienna in the early 1970s. Apart from their rarity, these 'modern editions' suffer from a number of grievous faults: very few manuscripts have been collated (Olivieri lists 30 *major* manuscript families and stemmata + five printed texts employed for accuracy) so that Zervos' readings (gained from 3 to 5 manuscripts) are necessarily ill-founded; and the Modern Greek editors occasionally and willfully 'clean up' or simply omit offensive passages, so that (for example) Zervos' edition of Book 16 (Leipzig 1901) omits matters that are patent in the Latin of Cornarius. Except for Books 1-8, Cornarius' 1542 Latin translation thus endures as the best available text of Aetius' fundamental *Tetrabiblon*.

instances in which Aetius not only indicates an ‘apprenticeship’ and study in Alexandria (especially in medical botany, pharmacology, and surgery),²⁰ but also an early acquaintance with the circulating texts of medical authorities, especially Galen, as well as dozens of other writers, ranging from Archigenes and Antyllus,²¹ to Philumenus, Severus, Herodotus Medicus, Philagrius, Rufus of Ephesus, and Asclepiades, Oribasius, Leonides, Criton, Heras of Cappadocia, and Soranus of Ephesus, with the additions of what appear to be pseudepigraphic accounts from an ‘Aspasia’,²² and the Egyptian

²⁰ *Tetrabiblon* 1 *pref.* (1,17-30 Olivieri) is a lengthy re-working of the ‘Drugs-by-Degrees’ theories of pharmacy, deftly rearranged from various passages in Galen. Partial translation in Scarborough (1984) 224-226. Books 2 and 3 continue this focus on drugs, finally ‘fitting’ 613 substances into various grades of heating, cooling, drying, and moistening medicinals. Surgical procedures appear fairly frequently beginning in Book 14: 14.6 (757 Cornarius: hemorrhoids); 14.24 (768 Cornarius: inguinal hernia); 14.48 (789 Cornarius: worms/maggots in wounds); 14.85 (815 Cornarius: removal of guinea worms from limbs by way of commentary on the methods proposed by Leonides); and the numerous surgeries in Book 16 (e.g. 23 [873 Cornarius: extraction of fetus]; 45 [884 Cornarius: mastectomy]; 101 [921 Cornarius: inguinal hernia]; 103 [922 Cornarius: clitoridectomy]).

²¹ Note 14 above (Antyllus). Galen *passim*, and Hippocrates generally is cited *through* Galen. Aetius’ garnering of specifics from the writings of Archigenes (fl. 98-117 AD) exemplifies editorial techniques, mechanics of selection and rearrangement, modification in light of clinical experience, and critical exegesis in manners that often display acceptance either partially or almost completely, or, rejection. E.g. *Tetrabiblon* 6.27-28 (Olivieri 2,170-173: apoplexy and paralysis in distinction *from* Galen and Archigenes; Olivieri notes pieces of Aetius’ comments on apoplexy find their way into Paul of Aegina’s versions, and Aretaeus of Cappadocia is enmeshed *within* Galen’s or Archigenes’ interruptedly-quoted lines); 6.39 (*ibidem* 181-183: tetanus and spasms, this time with Aretaeus distinguished *from* Archigenes and Galen, with some adaptations by Paul; Aetius does, however, approve of the multi-ingredient mixture to be quaffed in treatment as given by Archigenes – at the very end of this section [183]); similar techniques using Archigenes are 9.27 (Cornarius 512: twisted intestine), 10.4-5 (*ibidem* 564-566: abscessed liver and therapy), 10.19 (*ibidem* 585: habits promoting poor health), 10.32 (*ibidem* 598: tried-and-true diet for dropsical patients), and 11.4 (*ibidem* 602: kidney stones).

²² Aspasia may be an actual midwife, whose services were valued at court (she appears only in Aët. 16). She is cited on ‘How to Care for the Pregnant Woman’ (16.12 [Cornarius 866]), ‘How to Care for the Pregnant Woman Who is Ill’ (16.15 [*ibidem* 867]), ‘How to Destroy a Fetus’ (16.18 [*ibidem* 868-869]), ‘How to Care for a Woman after an Embryotomy’ (16.25 [*ibidem* 875]), ‘How to Suppress the Menstrual Flowing’ (16.51 [*ibidem* 887]), ‘On the Uterus Leaning Backwards, Moving Sideways, and ‘Retreating’ 16.77 [*ibidem* 905-906]), ‘Treatment for Spreading Ulcers of the Uterus’ (16.92 [*ibidem* 917]), ‘On Uterine Hemorrhoids’ (16.97 [*ibidem* 920]), ‘On Pudendal Hernia Varicosa’ (16.102 [*ibidem* 921]), and ‘On Condylomata’ (16.106 [*ibidem* 923]).

astrologer, ‘Nechepso.’²³ To be sure, Aetius probably collected medical textbooks during his time in Constantinople at the court of Justinian and Theodora (thus to be dated to before 548 AD, with the death of Theodora from some kind of cancer),²⁴ but the catalogued assembly of authoritative works bears the imprint of his student days. Those years spent in Alexandria included training as an apprentice in surgeries, unmistakably signaled in the respect proffered to the writings of Antyllus and Leonides – quite in contrast to detailed criticism of and for many other authorities, and Aetius’ ability to perform radical surgeries for the life-threatening occurrence of breast cancer and various hernias (male and female) indicates lengthy and thorough training at Alexandria. There may also be echoes of a stint as a military doctor or service in the community at large as Aetius relates procedures for the treatments of gangrenous limbs,²⁵ common as sequelae among workers in any city or town who labored as carpenters, stone-masons, or common day-laborers engaged in the maintenance and repair of

²³ *Tetrabiblon* 15.19 (853 Cornarius) = (more-or-less) 15.21 (119-120 Zervos [1909]): ‘Nechepso’s Plaster for Scrofula, Throat-Tumors, Parotid-Tumors, and All Hardened Swellings [made from] Vervain [Leaves].’ Here *cupressus* (Cornarius), κυπαρίσσος (Zervos) is not the cypress-wood, but an herb (*Verbena officinalis* L.) whose leaves resemble those of the cypress tree. That Aetius has a text of ‘Nechepso’ at hand may indicate he learned of it as a medical student in Alexandria, since this pseudo-author (paired with ‘Petosiris’) had wide circulation in the eastern Roman Empire, especially as a bulky, 14-book guide to astrology, Hermetic medical lore, and similar matters. David Pingree (*OCD*³ [1996]) 1032, ‘...by a late Hellenistic Greek who used the Egyptian names to convey a spurious authority.’ ‘Nechepso’ appears again in 15.12 (828 Cornarius [among dozens of ‘plaster recipes’]) = 15.13 (42 Zervos) as the inventor of a plaster called ‘The Hestia.’

²⁴ Victor Tunnunus, *Chronica*, 549 (anno) *Post consulatum Basili V.C. Anno VII, 2: Theodora Augusta Chalcedonensis synodi inimica, canceris plaga corpore perfusa, vitam prodigiose finivit*. Antonio Placanica, ed., trans., comm. *Vittore da Tunnunna. Chronica* (1997) 48-49, with commentary, 123. Simple ‘cancer:’ Honoré (1978) 12; syphilis: Körbler (1974) 15-22.

²⁵ *Tetrabiblon* 14.56 (801-802 Cornarius). Much of this derives ultimately from Galen, *In Hipp. Artic. comment.* 4.16 (18a.687-688 K.), Galen, *In Hipp. Fract. comment.* 2.20-21 (18b.455-456 K.) and *Ad Glau. de meth. med.* 2.11 (11.136-137 K.), but Aetius has conjoined sentences and phrases from Archigenes’ *Gangrene* (= Orib. *Collectiones medicae* 44.23 [3,146-147 Raeder]), indicating that Aetius has combined Archigenes, Galen, and Oribasius, with his own therapies (bloodletting, cutting away the insensate flesh, multi-ingredient salves, ointments, and plasters which incorporate – among other things – birthwort, iris rhizome, honey; and for ridding of thick scarring, plasters of bread-crusts and oil that cure the inflammation and oozing). Aetius notes, as had Archigenes and Galen before him, that unless curative therapies are given quickly, the putrified flesh affects nearby parts, and kills the patient, but once the ‘gangrene’ loses sensation, it is called a *sphakelos*.

public structures, aqueducts, and the like. Important too is the manner in which Aetius arranges his topics, and the employment of written authorities to buttress his own experiences, and the surgeries in the obstetrics and gynaecology of Book 16 are matched by the frequent recourse to definitive surgeries in the subsections of Book 14 on the sexual organs, as well as procedures included in Book 7 on ophthalmology. Occasionally, Aetius will recommend minor surgeries combined with anesthetics (e.g. insomnia, fevers, headaches and mandrake in Book 5),²⁶ indicating his time in Alexandria was spent with teachers who well understood the effects of natural narcotics and how they contributed to successes in surgeries.²⁷ Moreover, Aetius sandwiches quoted authorities *among* and *within* his own recording of clinical experience, so that one reads a prominently displayed selection of written texts, set side-by-side with what either his instructors might have advocated, or what his own practice had shown to be beneficial; sometimes the Big Names in the tradition come off second-best to Aetius' semi-experimentation with variations on techniques in surgery or the mixing of compound pharmaceuticals.

A careful reading of the *Tetrabiblon* does *not* disclose a simple parroting of the major and minor medical classics – as is almost always stated without question in the modern accounts of ancient and Byzantine medicine – but exhibits a patterned selection of relevant portions of those authorities as compared with his personal case-books, perhaps student notes, and certainly what he found efficacious in his

²⁶ *Tetrabiblon* 5.120 (2,97-98 Olivieri), presumably 'quoted' from Philumenus and Herodotus Medicus on *Insomnia with Fevers* (opium poppy latex, sometimes the poppy-heads whole, the black roots of the poppy, or 'apples' of the mandrake, or hyoscyamus, with very fragrant ingredients, added rose-petals, lettuce-juice, and spearmint with coriander, '...but I administer [these ingredients], fashioning them better in a less pungent form [adding] black poppy heads, melilot, calamint, and pennyroyal decocted in water into a [thicker] lotion-like mouthwash to be quaffed. And this *really* smells good!' [97]). More formulas and recipes follow, containing mandrake and opium, each an excellent sleeping potion. Cf. 6.2 (2,127 Olivieri); 6.41 (184 Olivieri); 8.50 (484-485 Olivieri); and 8.60 (507-509 Olivieri).

²⁷ *Tetrabiblon* 12.30 (657 Cornarius) = 12.34 (61-62 Kostomiris [1892]): Περί τῶν ναρκωτικῶν, is a tabulation of particular simples gained from 'the doctors' (οἱ ἰατροί) who have discovered the most effective pain-killers; and although an 'Asclepiades' appears at the end of the chapter with a recipe for 'pills which alleviate the pains of gout', the mandrake, opium, saffron crocus, aloes, frankincense, myrrh, and storax all appear to be given by Aetius as if from a 'case-book.' 12.31 (657 Cornarius) = 12.35 (62-63 Kostomiris) is a short listing of narcotic salves and ointments (Χρίσματα ἐκπυροῦντα παραλαμβάνόμενα μετὰ τὰ ναρκωτικά) with no attributions (ginger and pepper are ingredients, along with beexwax and fresh euphorbium).

own practice. Aetius' medical apprenticeship in Alexandria included study of the written sources of medicine, as well as training in criticism of those sources in light of actual clinical experience, particularly in surgery, gynecology and obstetrics, and the enormous range of pharmacology. Books 2-4 are mostly drugs and compounds of simples, and the theoretical assumptions about drug-actions as founded on the venerated triplicate principles of elements, qualities, and humors, often borrowed directly from Galen and frequently from Oribasius, with an occasional passage naming Dioscorides and Rufus, but *not* Hippocrates.²⁸ A rapid skimming of the *Tetrabiblon* seems to indicate only 'quotations', but what it exhibits is an arrangement of written works around a physician's own practice. This is the basic template followed with increasingly prominent exegesis by the later medical teachers and commentators in Alexandria and likely Ravenna after about 550 AD.

The Commentaries and what they are designed to do

Dating the commentaries remains somewhat problematic, but Duffy has settled on the century between 550 and 650 AD as the time when most of our extant texts were produced,²⁹ and this is in keeping with other aspects of what is known about the 'Alexandrian Medical Curriculum' as summarized in later Arabic sources.³⁰ Prominent among the authors are John of Alexandria, Stephanus of Athens, Palladius, quite probably Gesius,³¹ and Agnellus of Ravenna. Emerging from the scholarship of Bräutigam and Temkin was a clear depiction of a kind of medical canon,³² a 'syllabus' that outlined the teaching of about sixteen books from the writings of Galen, and about eleven additional tracts drawn

²⁸ Hippocrates is notably absent from either of the two folios of 'Seven Physicians' in the 512 AD Codex Anicia Juliana. Mazal (1981) 53-54 with plates 2 and 3 (folios 2 verso and 3 verso). *Tetrabiblon* 2.73-81 (1,176-178 Olivieri [1935]) is instructive on how Aetius melds his texts within his own experiences with styptics and related mineral substances including the 'flower of copper.' Dioscorides is assumed as the 'earliest' authority, set *underneath/behind* Galen. Aetius has *both* written texts before him, and as is characteristic, tells us how *he* has utilized the information. As late as Ibn Riḍwān's *Useful Book*, there is a continual presumption that good physicians will compile their own 'handbooks' to be used in practice. Iskandar (1976) 239-241.

²⁹ Duffy (1997) 11-12.

³⁰ Temkin (1932) 74-80; (1935) 413-414 with note 42. Iskandar (1976) 256-258.

³¹ Temkin (1935) 425-426.

³² Bräutigam (1908) 35-38 [Palladius]; cf. Temkin (1932) 74-75 and 76-79.

from the *Hippocratic Corpus*. By the end of Byzantine dominion of Egypt and the Muslim invasions, the *Epitome of Medicine* (= *Seven Books*) by Paul of Aegina indicates a final stage in the development of learned commentary and exegesis based on personal experience in the practice of medicine, into a precise summary of those case histories with written authorities almost always subsumed anonymously *within* the account. In the *Seven Books*, Paul makes it frequently obvious that much of what he has to say, especially about surgical procedures, is intended to be instructive for students as well as their less-than-experienced teachers. The contrast is striking between the involuted methodologies of Aetius and the openly didactic purposes of Paul, exemplified by the surgical procedures in Book 6, in which he often implies ‘do it this way, *not* that way’, illustrated by the famous techniques for arrow-removal,³³ and repairs of hernias.³⁴ The commentaries standing in time between Aetius of Amida and Paul of Aegina demonstrate a development from a ‘personal’ compilation of written authorities accompanied by case-histories (around which those texts would be arranged) into a formalized lecture-format, which emphasized exegesis on written authorities in the classroom *illustrated* by personal experiences *as a practicing physician*. Often in this stage of medical commentaries, one gains the impression that the instructor is saying, ‘Galen/Hippocrates says *this*, but I say *that*.’ The medical curriculum is, indeed, organized around a set number of the works of Galen and Hippocrates, but as the texts themselves indicate, those written authorities are not ‘parroted to be memorized’, but are examined, criticized, and illuminated by the physician’s actual practice. And as one instance suggests, students were free to challenge a professor’s interpretation. Parallel mechanics of textual commentary are less likely among the veterinary surgeons,³⁵ who generally wrote up manuals fully based on their experiences lightly seasoned with occasional authorities,³⁶ and are very far removed from the manner of

³³ Paul.Aeg. 6.88 (2,129-135 Heiberg). Salazar (1998) 180-184.

³⁴ Paul.Aeg. 6.65-66 (2,107-111 Heiberg). Scarborough (forthcoming) with notes 80-88.

³⁵ McCabe (2002) 92. Doyen-Higuet (1984) 111-120. Fischer (1988) 191-209.

³⁶ E.g. Vegetius, *Mulomedicina, prol.* 3; 1.38.5; 3.13.4; 14.5.22; 27.1-2 (Apsyrtus [ed. Lommatzsch (1903)], 12, 62, 262, 264, 267-268 [recipes]). McCabe (2002) 92, compares the ‘disease-headings’ to ‘composite scholia or catenae’, citing Wilson (1967).

legal excerpts and composition,³⁷ demonstrated by the methodologies followed in the production of the famous *Digest* (published 533 AD).

As Aetius had set down his discrete subject matters in the *Tetrabiblon*, so too did the medical professors as they taught from specific texts, either from the works of Galen or the Hippocratic collection. As a teacher performed his detailed exegetical exercises on ‘what Hippocrates *really* meant’, or why ‘Hippocrates said *this*, but I say *that*’, students not only learned techniques of textual criticism and presumably some habits of clarity in the formulation of prognoses, diagnoses, and therapies, but also why a *textbook* became the mark against which practice would be measured. Hippocrates and Galen, much as do modern textbooks in medical schools, presented physicians and their students with a ‘class’ of disease, and each patient would present with an individual modulation that fit *within* that category, whether (e.g.) specific hernias (inguinal, etc.), fractures (by ‘place on the body’, limb, compound, or simple), the large class of hemorrhoids, women’s ailments focused on womb and sexual organs, and the enormous panoply of pharmaceutical formulas ranging from plasters and ointments to wine-additives and narcotics. And as Aetius had subsumed most of his recommendations for surgical procedures within composite discussions of theoretical constructs fused with selections of written authorities, so also do the Alexandrian commentators refine such mechanics of criticism by means of direct quotations succeeded with illustrative instances drawn from personal encounters with patients in their own medical careers. Surgery forms an important aspect of what students will learn, first from disciplined exegesis and adroit drill and training in analysis of the Greek (or Latin) phrases in the setting of formal lectures (and presumably with catechistic recitations), *then* with clinical experience, initially supervised by the professor, *then* followed by active apprenticeships in the field by the students (this is especially evident in the *Seven Books* by Paul of Aegina).

³⁷ Honoré (1978) 139-142. Even further removed from the methodologies of the medical commentaries are the embedded ‘fragments’ of special sources (for example, the pre-Socratic philosophers in the writings of Hippolytus of Rome), for which see Osborne (1987) 87-131 (Democritus).

Stephanus teaches surgery

In Stephanus' *Commentary on the Prognosticon of Hippocrates*, 2.25.9, the professor offers a critical examination on the Hippocratic line, 'All sputa which do not stop the pain are bad, and the worst are the black, as we have described;' the teacher now moves from the topic of saliva and sputum into 'similar things' associated with spitting ('expectoration') and he says

... if nothing is brought up or, even in the event of expectoration, a very slight and negligible amount is brought up, and the pain does not cease at all with these expectorations, and then after we employ venesection and purging and even heat treatment, the pain does not subside, you may conclude that such a case of pleurisy is turning to empyema. Duffy (1983) 212-215.

From sputum, Stephanus has led his students into the diagnosis of empyema, a dangerous and potential rupturing of the pleural sac, a condition that must be watched very carefully in terms of its 'development' from a simple swelling and accompanying fever and chills. At a stage of development of the empyema, it is likened to a general category of 'abscess', or 'suppurative inflammation' (*apostasis*), in which fluid naturally and widely distributed collects in the inflamed part in the process of suppuration into that spot which displays the inflammation, and then '...there develops a sensation of heaviness.' Then Stephanus adds

It is the same when we employ surgery for abscesses; immediately upon opening there is a copious discharge and outflowing of pus, since it has gathered in one place: but when we decide to perform a premature surgery on abscesses, there is not a copious outflow, rather a very small amount of fluid is passed off which is thin or bloody or even serous, due to the fact that at the start the fluid is distributed over different areas of the inflamed part. Duffy (1983) tr., 215 [adapted].

One can easily imagine what Stephanus might have said to his pupils, were he uncertain that they had followed his medical reasoning, which had begun with a single line from the Hippocratic *Prognostic*:

'Students pay attention: do *not* excise an abscess *before* Nature signals that the empyema is indeed, full, or you will have performed a surgery that will

have to be repeated later on in the course of the disease. Hippocrates does not say this, I *do* from my own experience.'

Commenting on the Hippocratic sentence, 'At this time it is safe to undertake treatment', Stephanus broadens his critique to say that Hippocrates did *not* mean 'it is safe to employ surgery', since 'surgery' includes cautery, 'soaking', applying a poultice, and simple cutting of the flesh, 'all the things done with the hands are termed surgery.' *But* because most non-physicians (laypersons) say 'surgery' when someone cuts with a knife, Hippocrates avoids this 'common meaning', so that one would not take this term only in its 'ordinary meaning' by using either *staphulē* or *kionis*, but instead, 'it is safe to undertake treatment;' if one mentions the knife, '...[only] when the matter comes to the bottom part and inflammation develops there, then only should incision and cutting be employed.'

'Students: *watch your words* in public: make sure you are *very clear* in how you describe "treatment", and *do not* confuse surgery as done with a knife with other methods of therapy that you perform with your hands. *Got that?!'* Duffy (1983) 267.

Expounding on the Hippocratic *Aphorisms* 6.27, Stephanus relates to his students a bit of the history of surgery, noting that 'In Hippocrates' days such patients [with empyema] were treated by cautery and lancing', but 'empyema was cauterized, dropsy was lanced', that is to say 'punctured.' Then Stephanus proceeds into some basic surgical anatomy, even while he explicates the Hippocratic text:

Empyema patients were cauterized between the ribs, that is through the inter-costal muscles; they did not cauterize them above the ribs, lest in doing so they should also burn through the rib-cage (namely the bones), and through the membranes and this would have resulted in intolerable pains, similar to that experienced in gangrene... Dropsy patients were lanced, that is to say punctured, and we do this in our practice today.³⁸

'And students, *ignoring the centuries-old experiences of skilled physicians, will lead to disastrous results*, as you can observe out in the city. If Hippocrates tells us that if too much is let out at once from an abscess or an empyema, then the patient inevitably dies, and...'

...we can see this going on every day: incompetent surgeons, when they have cauterized and punctured, and they see a great deal of moisture or of pus being evacuated, are jubilant, and then the patients die under their

³⁸ Westerink (1985-1995) 3, 231.

hands. Why do they die, when the abnormal swelling is evacuated? My answer is that along with the useless matter also slips out the useful matter as is evacuated, and especially the vital tone is dispersed imperceptibly; and when this is dispersed, death is inevitable...we should evacuate gradually, that is let the fluid flow out in small quantities, and thereby evacuate the patients...one cup on the first day, another on the second, another on the third, and similarly evacuation is to be used on the following days, until all the matter has been collected, whether pus or water, has been evacuated. If we do it this way, a patient's constitution will, so to speak, be able to rest and relax, and additionally the *dynameis* will recover in due course, and the patients will survive and become better, so there is hope of recovery.

'Students: remember this as a principle when treating almost all abscesses: do not assume that rapidly releasing pus or water from a swelling will cure a patient: more likely it will kill him. Not only does the great Hippocrates advise us in this way, we can see what happens at the hands of amateurs on the streets of Alexandria: they kill patients while boasting and bragging about their lancing skills.' Duffy 230-233.

Of course, there are exceptions, and medical students must learn when to perform surgery on an abscess in order to save a patient. In his comments on the Hippocratic *Aphorisms*, 6.41, Stephanus suggests why this passage – even though it describes a suppuration that is not visible – would call for surgical intervention *if* it is accompanied by fever, paroxysms that are erratic and irregular, and the patient experiences pain 'that is like that in gangrene', other shooting pains in some other part of the body, and shivering and/or spasms unexplained otherwise, '...then you can be sure there is an abscess which is beginning to suppurate.'³⁹ A student objects, and says:

'... but maybe we can go ahead and use the knife on an abscess that is obvious and has a head, and proceed to remove the pus. And yet you are saying that we should operate immediately for an abscess that is invisible, hidden deeply somewhere in the patient's body; how can we discern, as long as the abscess is invisible, that it *is* beginning to suppurate and that the patient's pains are not due to some other cause?' Westerink 253 [adapted].

With some irony, Stephanus responds that all of the concomitant signs are there as presented by the patient, and since they are, '...we do not wait until the abscesses come to a head as the surgeons do.' Those people, not knowing the finer points of diagnostics, '...go on using septic poultices and liniments *until* the abscess comes to a head, but this

³⁹ Westerink (1985-1995) 3, 252-253.

is wrong.⁴⁰ You already know why internal and invisible abscesses do not come to a head, and the two basic reasons, in themselves, are apparent: first a thick layer of flesh may cover it (as would be the case of an abscess in the thigh); secondly the thickness of the pus itself will determine whether or not it comes to a head, since thick pus stays inside and remains invisible, and you also know that any abscesses cannot come to a head *unless* it is a mix of thin matter with air.

If you wait for the abscesses lying deep in the body to come to a head, corruption supervenes; and when corruption supervenes, it corrodes and putrifies the vessels deep within, veins, arteries, nerves. If the veins and arteries are putrified and corroded, the patients die under hemorrhages; if the nerves are putrified, they perish under convulsions. Westerink 255.

Elaborating on the famous Hippocratic *Aphorisms* 1.1, Stephanus tells us that the ‘art is long’ incorporates what one learns about surgery: ‘How we are to handle the tools; that incisions must be straight or athwart or oblique or crooked, depending on the position of the muscles...’, and finally, ‘...a man has become acquainted with [this aspect of medicine], then apply it, then acquire experience....’⁴¹ Notice the stages:

- 1) learn about surgery in the classroom;
- 2) do it under the instruction of an experienced mentor;
- 3) go out and gain your own years of practice. As a kind of afterthought.

Stephanus remarks that although physicians should have short fingernails, a surgeon should have long ones, ‘...since he will need them in surgery for use as a sort of forceps.’⁴²

Practical instructions appear from time to time, exemplified by Stephanus on hemorrhoids (the Hippocratic *Aphorisms* 6.12: ‘In case of a patent cured from chronic hemorrhoids, unless one is kept, there is danger of consequent dropsy or consumption’). Basic vascular anatomy is prominent, as are the procedures given by Stephanus:

It should be noted that there are four or five veins leading to the anus. The present aphorism is written on behalf of surgeons: if you see [Hippocrates]

⁴⁰ Westerink 253.

⁴¹ Westerink (1985-1995) 1, 39.

⁴² *Ibidem* 43 [adapted].

says that evacuation is abundant and excessive, tie up the veins that have been opened. But when we see that they have stopped bleeding, we often open up some of the veins with a lancet. If, however, this evacuation through hemorrhoids is moderate, we do not interfere at all, since in that case the evacuation is beneficial...

‘Students: do *not* presume that surgery is always necessary for hemorrhoids; *remember the basic structures in and around the rectum and the anus*, and that it will be the *veins* (and only the veins) that you will tie off, and that you will cut it open (again) if bleeding occurs, before you apply ligatures again.’ Westerink (1985-1995) 3, 215.

Surgery includes bloodletting and cupping, and the Alexandrian professors taught these essential procedures, beginning with theoretical concepts. In his *Commentary on Galen’s Therapeutics to Glaucón*, Stephanus has some pertinent remarks. First the ‘why’ it is necessary sometimes:

The patient clearly needs bloodletting if there is an excess of blood and if his age does not put him at risk, and especially if his fever set in during Spring. For nature can easily master the humor that remains behind. Dickson (1998) 173 (*Ad Glauc. de meth. med.* 130 = 11.36.18-37.4 K.).

A physician/surgeon treats a patient with a diseased spleen, by means of a carefully judged phlebotomy, and the student must learn exactly which vessels are to be lanced, and where they are located. One cannot escape the impression that Stephanus is lecturing either as he is performing an actual phlebotomy, or that he assumes the students have done some dissecting (primates?), much as Galen urged strongly in the *Anatomical Procedures*.⁴³

Since [Galen] advised against purgation at the beginning, he makes an additional distinction and says that while the disease is still unconcocted, one should also cut the vein whenever there is a large amount of blood. Now we must pay close attention. If the purged blood is black, we should take heart and purge a considerable amount without anxiety; but if it is rather yellow, we must stop. The reason is that the latter [the yellow] is beneficial, and so there are grounds for fear that the *dynamis* will be destroyed if this is purged. Cut the vein on the same side as the spleen, namely on the left side in a direct line with this part. And we must not open the humerocephalic vein, since this vein instead purges matter from the

⁴³ Galen, *De anat. admin.* 1.2 (2.222 K.): ἐκλεξαι δὲ εἰς τοῦτο τῶν πιθήκων τοὺς ὁμοιοτάτους ἀνθρώπῳ.

head, and this is why we cut it in cases of ophthalmia or of some ache in the head or pain in one of the upper parts of the body. In the case of pains in the lower body, however, we do not cut this vein but rather the basilic vein, through which matter in the lower part of the body can be purged. Now, when we cannot find this vein, we should turn to the intermediate vein [median cubital vein], which runs from the convergence of the basilic and <and the humerocephalic> veins. Through this vein we should be content to purge matter from the whole body, both upper and lower parts. Dickson (1998) 176-179 [slightly altered]: *Ad Glauc. de meth. med.* 138 (11.38.2-7 K.).⁴⁴

Then there are the revulsion techniques employed by physicians and surgeons, medical technologies using cupping glasses consistent with Roman and Byzantine theories of vascular anatomy and physiology, the assumption of blood making its way back and forth from part to part and organ to organ. The corollary assumption, that naturally followed, was that there was a natural 'sympathy' among given structures of the human body. Galen had developed a sophisticated gradation of cupping techniques to promote 'revulsion' (*antispasis*) and 'derivation' (*parocheteusis*), with the objective to direct blood from one part of the body to another (from a vital organ to a less essential part), thinking that the 'diversion' draws blood away from one part to another, thereby reducing a *plethora* or lessening or stopping hemorrhage.⁴⁵ Galen had written in *Ad Glauc. de meth. med.* 181 (11.51.6-9 K.):

In general, perform revulsion (*antispasis*) either on the parts that are related to the affected parts or else on the parts that are the source of the flow. This is why cupping glasses applied under the breasts stop the evacuation of the uterus very quickly. Dickson (1998) 217.

Stephanus explains what this might mean, and why it is important in practice: '...the breasts are linked with the womb through the mediation of given veins. These take the blood that collects in the uterus and that is supplied for the nourishment of the embryo during pregnancy, and transmit it in turn to the breasts to be changed into milk and sent out again to nourish the infant.'⁴⁶ However

⁴⁴ On the confused and confusing nomenclature for the 'cephalic' and 'basilic' veins, see Temkin (1961) 336-339.

⁴⁵ Galen, *De meth. med.* 5.3 (10.314-316 K.). Dickson (1998) 217-219 note 36 (discussion and references). See esp. Marganne (1980) 115-130.

⁴⁶ Dickson (1998) 219.

... we perform revulsion on the parts that have sent the flow whenever the parts that have received it are more important than the ones that have sent it. For if the reverse is true, namely if the parts that sent it are vital, whereas the ones that have received it, are unimportant and non-vital, we do not take this as reason to perform revulsion. Dickson (1998) 219.

Generally, modern accounts about ancient medical and surgical procedures fail to explicate why so much ‘cupping’ was performed;⁴⁷ Stephanus is ensuring that *his* students are completely in command of the theory behind ‘revulsion’ as well as why it is so very useful in controlling bleeding and – in the instances of post-partum hemorrhaging or hypermenorrhea – how one could stop the ‘flux’ by means of properly applied cupping vessels. From our viewpoint, this procedure was useless, but one must always take the texts for what they say, not for what modern medicine might say about them. As Dickson remarks, this ‘sympathy’ between uterus and breasts is a very ancient concept, indeed, and Stephanus rightly for his day was updating Galen’s theoretical constructs, firmly based on a vascular physiology *never* based on any notions of a closed circulation.

Surgical procedures in bone-setting are founded on similarly precise knowledge of anatomy, as Stephanus and Palladius, his teacher,⁴⁸ render commentary on the Hippocratic *Fractures* 35.⁴⁹ Since the resetting and treatment of a protruding humerus or femur is so very difficult, and chances are rare that the patient so injured would recover full use of the limb, the student is advised that Aristotle was quite right to suggest study (by analogy) of the femur and humerus in larger animals, especially the elephant.

‘Students: Consult the *Inquiry into Animals* in the library, and you will note (as you compare these things with what you know about human osteology and the muscles appended to all bones) that there are in larger animals, as in humans, the complicated interweaving of cartilages, tendons, and nerves; wrenched and probably severed in such cases.’

Stephanus and Palladius address the ‘unnatural state’ of the exposed bone, and how the experienced surgeon must always attempt to return

⁴⁷ Jackson (1994) 182-184 with fig 3, 12 [206]: ‘Cupping Vessels.’ Note ‘dry-cupping’ vs. ‘wet-cupping’: ‘Wet-cupping...was used...for diversionary bleeding...and for the treatment of animal bites’ (183).

⁴⁸ This is the implication drawn from the parallel texts edited by Irmer (1977).

⁴⁹ Irmer (1977) 86-88 (Greek), 148-151 (German).

the bones to their proper place in the body, where they will not suffer from the cold and be exposed to air.⁵⁰

These examples of what was imparted in the classroom imply that the students will soon ‘assist’ in their implementation, or may have already done so. The ‘course of study’ in medicine at Alexandria in the sixth century consumed about two years, and likely the students studied the Great Works, attended lectures on the Great Classics of Medicine (attendance requirements were probably similar to most ‘higher education’ in Roman Antiquity [there were none]), and went out ‘on call’ with experienced practitioners. There are a few bits of evidence that suggest physicians answered summons to attend patients who had suffered grievous injuries in the city at large, but it is in the context of a later practice that we find frequent and undoubted testimony that students accompanied their teacher on their rounds; in fact – as was the case of the manner in which Aetius of Amida described some surgeries – the presence of assistants (who were apprentices in training) was essential in given procedures.

Paul of Aegina

Paul of Aegina’s *Epitome of Medicine* (more properly known as the *Pragmateia*,⁵¹ but more often called *The Seven Books of Medicine*), was set down sometime during the decades in which the Muslims finally completed conquest of Byzantine Egypt.⁵² Thus his compendium forms a bridge between late Alexandrian medical instruction and those recorded by Arabic sources about the earlier teaching traditions. Paul says he is quite unhappy that physicians have not produced ‘synopses...of useful principles like those of the jurists...who have them to serve immediate needs’,⁵³ so he has put together his handbook, with ‘...some small bits of my own, some few matters that I have witnessed and performed in the practice of the Art of Medicine.’⁵⁴ The *Seven Books* reveal this as rather ‘false modesty’, since Paul rarely cites authorities, although one can track Galen, Oribasius, Aetius of Amida,

⁵⁰ Irmer (1977) 89.

⁵¹ Pormann (2004) ix, 1-3. Adams (1844-1847): Paul.Aeg. *Prooemium* (1,3 Heiberg): διόπερ τίνδε τὴν ἐπίτομον ἐκ τῶν ἀρχαίων ἐνεστησάμην συναγωγὴν, thus *Epitome*.

⁵² Salazar (1998) 170, with notes 2-3.

⁵³ Paul.Aeg. *Prooemium* (1,3-5 Heiberg).

⁵⁴ *Ibidem* 3-4: οὐτε γὰρ ἐμὰ παρεθέμην ἐν αὐτῇ γεννήματα πλὴν ὀλίγων δὴ τινων, ὅσαπερ ἐν τοῖς τῆς τέχνης ἔργοις εἶδόν τε καὶ ἐμπεύρασα.

Alexander of Tralles, and others in certain chapters. Paul intends his compilation to be a summation of the basics of practice, from essential theory through diagnostics, prognosis, and treatments, a quintessential *textbook* suggesting classes of diseases and their therapies. The ‘teaching function’ is the textbook itself, and it bears the marks of the medical curriculum bereft of textual criticism.

The rightly famous Book 6 (Surgery)⁵⁵ provides a clear series of snapshots of the experienced physician/surgeon accompanied by apprentices. Both civilian and military lives appear, and there is a fluidity of function, back and forth, according to the requirements of particular campaigns and the injuries encountered, much as was true in an earlier Roman military medicine.⁵⁶ To re-emphasize fundamentals: *young medical students learned their skills on the job*. Chance, of course, would play its usual role in whether a given student attached himself to a gifted practitioner, but – using the analogy of today’s American internships and residences – good students who had attended lectures on the medical texts in Alexandria, and who were known to their professors, would have ‘recommendations’ from their teachers for service with military physicians willing to take on apprentices.

Book 6.88, is the famous account of the extraction of arrows (barbed and plain, sometimes poisoned), and spears,⁵⁷ and the context is explicitly Egyptian. The techniques are sensible and normally would lead to recovery. And although Paul’s description of amputations (6, 84) does not specify a military setting,⁵⁸ the saws employed in the second phases of the procedure can easily be pictured as important

⁵⁵ Paul.Aeg. 6 (2,42-183 Heiberg); trans. Adams, 2 (1846) 247-511 [includes occasionally extensive commentaries].

⁵⁶ Esp. Cels. 7.5 (308-310 Marx); trans. (from the Marx ed.) Spencer 3, 315-323. Celsus was likely an officer in the army that invaded Parthia (61 AD), and the gruesome description of barbed-arrow removal probably derives from field experience late in Celsus’ life. John Lydus, *De magistratibus populi Romani* 3.34 (122-123 Wuensch), quoting from Celsus’ account of the War against Parthia. Dioscorides of Anazarbus (*fl. ca. 70 AD*) may have served for short periods in an unknown legion as a civilian physician: *De materia medica*, Pref. 4 (1,2 Wellmann) trans. Beck (2005) 3. Scarborough and Nutton (1982) 213-217. Military physicians functioned on many levels, including as small-time bankers and quartermasters. Fink (1971) 277-280 (No. 74). Campbell (2002) 66-68. In general, Salazar (2000) 68-83.

⁵⁷ Paul.Aeg. 6.88 (2,129-135 Heiberg); trans. Adams (1846) 2, 418-422; re-trans. Salazar (1998) 180-184.

⁵⁸ Paul.Aeg. 6.82-85 (2,126 Heiberg [once citing Leonides]); trans. Adams, 2, 409 [valuable commentary, 410-414]. Cf. Cels. 7.33.

tools in a military surgeon's collection of instruments.⁵⁹ 'Orderlies' are constantly present, learning as they go. As important as are the techniques for weapon-removal in 6.88, the detailed descriptions of surgery for skull fractures in 6.90,⁶⁰ suggest a high level of expertise (and careful attention to some aspects of skull surgery from Galen's *On the Therapeutic Method*),⁶¹ as well as an intimate knowledge of human anatomy. One cannot escape the impression that Paul has dissected human cadavers in a systematic fashion, but he – as is usual for writers from the early Roman Empire on through medieval times – does not say precisely how he gained his detailed knowledge of human structures. Paul 'instructs' his apprentices in a step-by-step procedure for the surgical treatment of skull fractures, beginning '...having first shaved the head about the wound, we make two incisions intersecting one another at right angles like the letter X, one of them being the wound already existing.'⁶² Two assistants help the surgeon in both positioning the patient in a proper manner for the operation, and also in the various stages *within* the procedure: 'we direct two assistants to retract with small twisted cords the four corners of the parts that are on top of the fracture, and if the bone is weakened, either from its own nature or from the fracture, we cut it out with hollow gouge-chisels (*kuklikōtoi*).'⁶³ These 'apprentices-in-attendance' participating in the detailed and painstaking procedure are repeatedly noted. Another good example of continually present apprentices is Paul's equally detailed account of hernia surgeries,⁶⁴ and again are meticulously laid-out specifics of a complicated operation, attended by the experienced surgeon and by two or three assistants, who are apparently apprentices. Other examples of 'learning on the job' are the surgery and suturing of

⁵⁹ Jackson (2005) 98-99. Bliquez (1994) 72-73 with references. Künzl (1982) 11, 19, 50, 101, and 126. Famous masters of amputation technique were Archigenes and Heliodorus (both *fl.* 98-117 AD) and Oribasius preserves whole blocks of their writings *Περὶ ἀκρωτηριασμοῦ*. Gurlt, 1, 411-421. Marganne (1998) xvii, with note 38 (references) and 96-109 (Heliod. 4 = P. Monac. 2. 23 = Marganne 77). Of special interest is Frg. 2 (prob. from Archibius) 'On Surgical Instruction') 13-34.

⁶⁰ Paul.Aeg. 6.90 (2,136-141 Heiberg); trans. Adams, 2, 429-433

⁶¹ Cf. Galen, *De meth. med.* 6.6 (10.445-450 K.).

⁶² Paul.Aeg. 6.90.4 (2,139 Heiberg); trans. Adams 2, 431 (slightly altered).

⁶³ Paul.Aeg. 6.90.4: καὶ εἰ μὲν ἀσθενὲς εἴῃ τὸ ὀστοῦν ἢ ἐκ τοῦ κατάγματος, ἀντιθέτοις ἐκκοπεῦσι τοῦτο περιέλωμεν πρῶτον τοῖς κυκλισμκωτοῖς [my trans. above]. Milne (1907) 124, and Bliquez (1984) 200, for the 'hollow chisel.'

⁶⁴ Scarborough (2006) [in press], with notes 80-88.

the upper eyelid and trichiasis,⁶⁵ hydatids of the eye,⁶⁶ the common and simple surgery for tongue-tie,⁶⁷ tonsil-extraction,⁶⁸ the usual procedures for a tracheotomy,⁶⁹ which Paul says is similar to the self-inflicted cutting of one's throat by someone who has attempted suicide. And many more. Similarly to the Alexandrian professors' methods of textual explication, Paul often writes, '*this* is the way *I* do it, and *that* is the way others do it', indicating that other surgeons have varying techniques for operations, in tandem with Paul's preferred method. He displays broad acquaintance with the surgeons of old, and the *Seven Books* reflects circulating texts of Antyllus, Leonidas, Heliodorus, and Archigenes (the last two confirmed through excerpts in Oribasius), texts that continued to be available for many centuries.⁷⁰ Paul's careful attention to the instruments necessary for each operation also gives us the best catalogue of surgical tools to survive from Antiquity, and archaeology has confirmed most of the specialized instruments described in the *Seven Books*.

Paul of Aegina is the last representative of the century-old teaching traditions in medicine at Byzantine Alexandria, and it is not surprising that sections of his *Seven Books* were widely translated and distributed among some of the greatest medieval Muslim physicians and surgeons.⁷¹ And apart from Ibn Riḍwān's *Useful Book on the Quality of*

⁶⁵ Paul.Aeg. 6.8 (2,51-53 Heiberg); at 6.8.1 (2,52 Heiberg) Paul specifies that the stitching-threads be made of wool: τὸ δὲ ράμμα ἐξ ἐρίου ἔστω. *Ibidem* 6.12 (2,55 Heiberg): two stitches of wool threads for closure of the surgery to repair eversion of the lower eyelid (Περὶ ἐκτροπίου).

⁶⁶ Paul.Aeg. 6.14 (2,56-57 Heiberg).

⁶⁷ Paul.Aeg. 6.29 (2,66-67 Heiberg).

⁶⁸ Paul.Aeg. 6.30 (2,67 Heiberg).

⁶⁹ Paul.Aeg. 6.33 (2,70-71 Heiberg). This is one of the direct quotations from the works of Antyllus, who says –sensibly enough – not to use this procedure when the windpipe is clogged. Paul adds his own comments on the likeness to a suicide attempt, and when closing the wound, 'stitching the skin only, and do *not* include the cartilage.'

⁷⁰ Evincing in the texts contained in a synopsis of surgery under the name Nicetas (*fl. ca.* 1200), published by Antonio Cocchi as *Graecorum chirurgici libri...e collectione ab antiquissimo et optimo codice Florentino descripti, conversi et editi* (Florence 1754). Gurlt, 1, 415 note 1.

⁷¹ Pormann (2004) 13-46 ('Syriac Sources') 47-123 ('Arabic Sources'). Especially important is chapter 6 ('Comparative Translation Studies' [259-284]), where Pormann demonstrates that ar-Rāzī and Ibn Sarābiyūn do, indeed, have translations of Paul's Greek, but there are important syntactical and grammatical variations. And in the discussion of the so-called translations of Paul by Az-Zahrāwī (300-302) Pormann shows definitively how Az-Zahrāwī '...paraphrases Paul quite freely and adds many things from his own experience' (301). Thus the 'influence' of Paul on Arabic medical

Medical Education,⁷² which summarizes an earlier Alexandrian ‘medical curriculum’, there are extant Arabic renditions of the ‘Sixteen Books of Galen’,⁷³ as well as other versions of the ‘Alexandrian Summaries’ (also known as *Summaria Alexandrinorum*) that became important in the transmission of late Byzantine medical tracts into the adaptations in Arabic, Hebrew, and Latin.⁷⁴ Late Byzantine Alexandria’s ‘medical curriculum’, and the commentaries and encyclopedias produced by professors and practicing physicians, in many respects embody the refined medical traditions and practice of a Roman medicine that continued to evolve through the centuries.

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texts rests on how the basic contents of the *Seven Books* were adapted and augmented, much as had been true in the earlier compilations of Aetius of Amida, and Paul himself.

⁷² Iskandar (1976) 248-252.

⁷³ Pormann (2004) 295.

⁷⁴ Lieber (1981) 167-186. Savage-Smith (2002) 121-138. Pormann (2004) 295-296.

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The Educated Midwife in the Roman Empire An example of differential equations

Christian Laes

Summary

This paper deals with both the reality and the idealization of training of midwives in the Roman Empire. It aims at a full survey of the existing source material (mainly literary and epigraphical sources, though iconographical and papyrological evidence has been included in the discussion). For the first time, a complete collection of the epigraphically attested Latin cases will be given. Moreover, I will deal with the apparent contradiction between the image of the educated midwife as it is exhibited mainly by Soranus, and the picture of midwives as low class women as it is revealed in other sources. In doing so, I will make use of the concept of differential equations, as applied by Joshel and Murnaghan concerning women and slaves in ancient society. As such, I will take issue with the Cilliers and Retief thesis about the social role of women in ancient medicine.

Introduction

Various ancient sources testify of the perils involved in pregnancy and giving birth for both mother and child.

Literary sources keep referring to this danger. Well-known is Medea's lamentation on the sorrows of women in Antiquity. First, women with a dowry are given in marriage to a man who becomes lord and master of their body. They don't even know whether he will be a good husband. Once married they have to try to come to terms with him. Athenian men live out of doors: they are involved in politics or wage war. Women are said to live a safe life indoors: 'They are wrong. I'd rather be three times in the battle line than have to give birth once to a child'.¹ Latin poetry has taken up the motive of risky pregnancy. In a

(*) I am indebted to Hugo Coomans for his apt translation of my Dutch original.

– according to modern standards – less than elegant manifestation of pathos Statius describes the women who attend the funeral of their children tottering and with milk-heavy breasts, beat their wet breasts in mourning and quench with their milk the smouldering ashes of the funeral pyre. In an elegy to his friend and patron Stella Statius beseeches the goddess Lucina and the coming baby to keep intact the physical integrity and beauty of Stella's young wife.² In a heated thrust at pampered rich women Juvenal quotes the fact that lower-class women suffer the pains and risks of a confinement and in addition feed their children in the absence of financial means to pay a wet nurse, whereas hardly one woman of the elite is with child in her golden bed.³ There is a shocking and ominous ring in the statement which says that a child whose birth causes the mother to die augurs well.⁴ Also the early Christian emphasis on female chastity may be considered in this perspective: multiple sexual relations enhanced the risk for women of pregnancy and the perils attendant on this condition.⁵

Neither do historical testimonies on fatal pregnancies lack. Julia, Caesar's daughter and for reasons of political alliances given in marriage to Pompey in 59 BC first suffered a miscarriage in the summer of 55 BC when she heard of the false rumour that her husband had been killed in a street riot. She died in September 54 BC after another miscarriage: the little girl would survive her for only a few days. According to Plutarch both Julia and Pompey were crazy about each other; Pompey being a passionate lover who knew how to please women, as testified his courtesane Flora.⁶ Cicero was disconsolate when his daughter Tullia passed away. She died aged 31 or 34 in February 45 BC owing to the effects of the birth of her first son. Probably the baby followed suit. Soon after the conception of the child she had divorced her husband Dolabella by whom she had already had a miscarriage in

¹ E. *Med.* 230-250. See especially vv. 250-251 κακῶς φρονούντες· ὥς τρὶς ἂν παρ' ἄσπιδα | στήναι θέλοιμ' ἂν μᾶλλον ἢ τεκεῖν ἄπαξ.

² Stat. *Silv.* 5.5.15-17: *Si qua sub uberibus plenis ad funera natos/ ipsa gradu labente tulit madidumque cecidit/ pectus et ardentis restinxit lacte favillas.* About Stella's wife, see Stat. *Silv.* 1.2.268-275.

³ Juv. 592-594: *Hae tamen et partus subeunt discrimen et omnis/ nutricis tolerant fortuna urgente labores,/ sed iacet aurato vix ulla puerpera lecto.*

⁴ Plin. *Nat.* 7.47: *Auspiciatus enecta parente gignuntur.*

⁵ Van Houdt (2003) 120.

⁶ On Julia's miscarriages and death, see Plu. *Pomp.* 53.1-4; D.C. 39.64.1. On Pompey's family life, see Bradley (1991) 166-169.

May 49 BC.⁷ Still before being emperor Caligula lost his young wife Junia Claudilla in confinement.⁸ Quintilian's wife dies less than nineteen years old and is already the mother of two children. She became a mother for the first time aged thirteen.⁹ Pliny's third wife Calpurnia who nearly succumbed to the effects of a miscarriage was probably a mere fifteen years old at the moment of the marriage, Pliny himself in the neighbourhood of forty.¹⁰ The same Pliny the Younger reports on the sad fate of the Helvidia sisters: both died in their prime after giving birth to a daughter.¹¹ Still late in Antiquity Ausonius composes an epitaph for the tomb of a mother who died at the age of sixteen.¹²

Also epigraphical and papyrological sources bear out this picture. At Saloniae (Dalmatia) a man erects a monument for his wife Candida. Approximately 30 years old and after seven years of married life she suffered excruciating pains for four days. She did not deliver a child and she died in the process.¹³ In a papyrus from Oxyrhyncha (15th of October 64 BC) Thaubas informs her father Pompeius of the death of her sister Herennia. On the ninth of the month Paophi she delivered a still-born, premature baby. Four days later she herself died. Thaubas is sure of her knowledge: it was about a baby which was eight months old, according to ancient thought by definition not viable and a potential risk for the mother. Obviously her statement illustrates well the *post factum* justification. She could not possibly have known when exactly the child had been conceived: precisely because it resulted in a miscarriage it couldn't but be an eight months' child.¹⁴ Death in

⁷ On Tullia's first miscarriage, see Cic. *Att.* 10.16.5 & 18.1. Grief about her death, see Cic. *Att.* 10.8.9; *Fam.* 4.6.1-3; 14.11; *Att.* 12.14.3; 12.23; 12.28; 12.36 & 37. The Dutch historical novel *Terentia* by A. von Beuningen (Amsterdam 1999) gives an excellent and very readable picture about the life of high-class women in the first century BC (though this novel has originally been written in English, the writer never found an English publisher for her work).

⁸ Suet. *Cal.* 12.

⁹ Quint. *Inst.* 6, praef. His wife died when she was not yet nineteen years old (pr. 4). . The first son died at the age of five (praef. 6), the mother followed him in death some months later (pr. 9) ..

¹⁰ Plin. *Ep.* 8.10 & 11.

¹¹ Plin. *Ep.* 4.21: *Utraque a partu, utraque filiam enixa, decessit. (...) In flore primo fecunditas abstulit.*

¹² Ausonius, *Epitaph.* 35: *In tumulum sedecennis matronae.*

¹³ CIL 3.2267: *quae est cruciata ut pari/ret diebus IIII et non pe/perit et est vita fun/cta. Iustus conser(vus) p(osuit).*

¹⁴ *P.Fouad* I 75. For texts on papyri concerning birth and early childhood, see Rowlandson (1998) 282-299; De Splenter (1989). On the potential danger of eight

confinement was a frequently developed theme in epigraphic poetry. These poems carved in stone offer a wealth of details which seem to directly confront us with the dramatic events of the past, during which mothers after a painful and a sometimes protracted struggle paid with their life. One should keep in mind, however, that also these poems were subject to literary conventions and expectations by the part of the readers.¹⁵

Ancient physicians were thoroughly aware of the risks involved in pregnancy. The *Gynaecia* by the physician Soranus who lived and worked during the reigns of Trajan (98-117) and Hadrian (117-138) offers a wealth of information on classical medical views concerning pregnancy and delivery. The whole fourth book is devoted to the laborious childbirth, the *δυστοκία*. Soranus emphasises that both midwives and physicians should keep their self-control in case the delivery does not pass off smoothly; but at the same time they should be aware of there being risks for the woman to die.¹⁶ Eventually both midwives and doctors found themselves rather powerless against the harsh rules of nature. They could see to relaxation by applying ointments and cataplasms, they could teach breathing techniques or try to bring the embryo in the right position by rapid and deft manual manipulation.¹⁷ In extreme cases one proceeded to extraction with the help of knives and hooks, the much-feared embryotomy. Attacks of fever, extreme inflammation and gangrene could then befall the unfortunate mother.¹⁸

Various osteological sources confirm the lurid picture. In the English village of Poundbury the skeleton of a cut up baby weighing more than five kilogram was found. During an embryotomy which must have lasted more than three hours head and right limbs were severed from the trunk. Since the mother was not found buried next to the newly-born it is inferred that she survived the painful operation. At about the same time, approximately 350 AD a fourteen year old girl died in Beit

months' children, see Plin. *Nat.* 7.4. Hanson (1987) 591 on the the *post factum* justification. See also Hanson (1987) 596-599: in Antiquity the notion was held that the moment of conception was known to the woman (because, it was said, she felt the mouth of the uterus close to retain the seed, and afterwards felt no wetness since the seed remained inside).

¹⁵ See recently, Laes (2004a) 173-177.

¹⁶ Sor. *Gynaecia* 4.6.

¹⁷ Sor. *Gynaecia* 4.7-8.

¹⁸ Sor. *Gynaecia* 4.9-11. For recent approaches of difficult child birth, see Gourevitch (2004); Chr. Bonnet-Cadillac (2004); Coulon (2004).

Shemesh near Jerusalem before or during childbirth. Her skeleton in the family tomb contains a forty month old baby.¹⁹ From the paleontological analysis of skeletons found on the Herculaneum beach, we know of a woman aged between twenty and twenty-five. Archaeologists nicknamed her *la giovane madre cardiopatica* – at an early age she was weighed down by heart problems. What must have been life like for the so-called *madre minuscola*, aged between twenty-five and thirty, marked by physical labour – and hardly five feet tall? Another girl aged only sixteen or seventeen, was five feet tall, her bodily development still incomplete, but also already marked by heavy labour. At the moment of the volcano erupting she carried an eight and a half month old foetus in her womb.²⁰

Will my wife bear a baby? Will it live? The questions are from the Astrampsychus oracle,²¹ but can be considered symptomatic of an ancient concern which is expressed in diverse sources. The desire for children is an important theme in the incubation inscriptions of Epidaurus, the ancient Lourdes.²² Moreover, spread over countless oracles and temples, caves and holy springs several votive offerings of female genitals or breasts, statuettes of gods and goddesses as *kourotrophoi* or mother goddesses, miniature statues of swaddled babies, amulets and medico-botanical or magical recipes point to the all-pervasive desire for (especially male) offspring which held sway over ancient mothers and fathers.²³

Finally, demographic enquiries have completed the picture. On the basis of population counts in Roman Egypt Bagnall and Frier calculated that the average fifty year old woman had brought six children into the world (out of whom two or three survived). Not only was the risk of miscarriage or mortality during the first year of life high, but also for mothers themselves the mere fact of delivering a baby was a gamble. Demographers' estimates point to a risk of seventeen out of thousand

¹⁹ Gourevitch (2004) 262-263 about the gruesome finds in Poundbury and Beit Shemesh.

²⁰ Capasso (2001) for a thorough analysis of 150 skeletons of refugees found at Herculaneum beach. For the young mothers, see pp. 636-640; pp. 779-781; pp. 869-870.

²¹ Clarysse & Hoogendijk (1981) 72-73 on the desire for children in the Astrampsychan oracle.

²² Herzog (1931) 22-23, note 34 for the case of an anonymous women from Troezen. Asclepius appeared in her sleep, and asked her whether she wanted a boy or a girl. She answered that she preferred a boy- a year later the child was born.

²³ Gourevitch, Moirin & Rouquet (2003) is an excellent catalogue rich in illustrative material.

cases of maternal mortality during confinement in Antiquity- nowadays Bangladesh still faces a similar number, while the average for modern western countries is .1 per 1000.²⁴

Midwives and female medicine: a history of 'longue durée'

For a long time past the aid of specialised women was called on during confinements. A gripping history might be written on these midwives (*obstetrices* – not to be confounded with *nutrices*, nurses in charge of education during the first years of life) in the West-European world.²⁵ Justifiably this history might be called a phenomenon of Braudelian *longue durée* – traditions and working methods of these women hardly changed over the centuries. Their secret knowledge was being passed on from woman to woman. Their ancient lore bathed in superstition (often the same women euphemistically called baby-farmers are responsible for carrying out abortions). It was only in the nineteenth century that modern pediatry came into being. Babies were weighed, infant diseases and prenatal deviations were catalogued and studied by academically trained physicians, hospitals were equipped in order to take care of the sucklings in a professional way. For the first time urban physicians and nurses moved into villages in order to inform parents on the appropriate baby food and care. The medical center supersedes the age-old indoor care, handed down from mother to mother. Eventually professional and academic medicine got the better of the traditional and popular midwifery. Through the English *Midwives Acts* (1902 and 1936) the midwife profession was incorporated into the official and state-controlled medical assistance.²⁶

²⁴ Rawson (2003) 104-105 estimates between 10 and 15 per 1000. According to Erdkamp (2002) 168 3 % of the deaths of adult women in nineteenth-century Spain was due to death in confinement or complications after delivery. The problem of death in childbed is dully underestimated by Simelon (2003) 603-604.

²⁵ According to Treggiari (1976) 86 the functions of midwives and nurses would were often combined. See however Eichenauer (1988) 217 who points out the fact that ancient writers were aware of the difference at least at a theoretical level. See also Nonius Marcellus, *De compendiosa doctrina* p. 718 ed. Lindsay: *Educit enim obstetrix, educat nutrix, instituit paedagogus, docet magister*.

²⁶ See Orme (2001) 15-16 on medieval practice and rituals of midwives; Rollet (2001) 203-217 on medicalisation of the profession and the rise of medical centra. For surveys on childrearing practices in the West-European world, see Fildes (1986) and (1988) and Riddle (1992) who offer little information on midwives. The study by Donnison (1977) offers telling information on the rivalry between midwives and doctors in England over

In Antiquity too the care of confinement was originally a woman's affair – knowledge of women passed on from generation to generation. From a feminist point of view the interest in confinement in Hippocratic writings of the fifth century BC is seen as a male attempt at conquering and controlling this female domain.²⁷ Nevertheless these physicians got their knowledge of the female body via oral tradition from women. Often their observations are not based on concrete anatomical observation, which accounts for a number of misconceptions as to the female body. Coelius Aurelianus, a Soranus editor from Late Antiquity is even going so far as to posit that the Ancients have invented *medicae* in order to prevent men from examining the female organs.²⁸ Loose testimonies also point to the exclusive female nature of confinement, also during the Imperial Age. According to ancient physicians women hesitated to have themselves palpated by a physician and examine themselves or have it done by a midwife in their stead. The midwife then performs gynecological tasks, even when the latter do not relate directly to a confinement.²⁹ An examination of the virginity of young girls was also conducted by

the period 1600 to 1900: see p. 1-41 on the traditional profession of midwifery (p. 34-35 on abortions) and p. 159-175 on the Midwives Act.

²⁷ This interpretation is strongly put forward by Demand (1994) 63-70, referring to Foucaultian theories on power. See Hipp. *Septim.* 4 (7.440-442 L.) en *Mul.* 1.62 (8.126-127 L.) on physicians consulting midwives.

²⁸ See Rousselle (1983) 37-47. For ancient sources, see Sor. *Gynaecia* 2.1 on midwives examining female organs and Sor. *Gynaecia* 3.3 & 5 (stating that women are normally being examined by women; gynecology is for typical female diseases, for other illnesses women have to recur to 'normal' medicine. Gourevitch (1995) 2084-2086 treats the vexed question of the existence of gynecology in Antiquity. Gourevitch & Raepsaet-Charlier (2001) have pointed to the passage in Caelius Aurelianus, *Gynaecia* 2.1.12-13.

²⁹ See E. Hipp. 293-296 (nurse reassures Phaedra that a woman will take care of her if she appears to be struck by an 'unspeakable disease'); Hipp. *Mul.* 1.62 (8.126-127 L.) (women do not like to be examined by a man); Hipp. *Carn.* 19 (8.614-615 L.) (women assisting a doctor during a confinement); Hipp. *Mul.* 1.21 (8.60-61 L.); *Nat. Mul.* 6 (7.320-321 L.) and 40 (7.384-385 L.) (medical examinations of women should be carried out by women not by men). These passages are brought together by Demand (1995). See also Sor. *Gynaecia* 2.3 (typical women diseases), 2.8 (menstruation being postponed); 2.17 (miscarriages). For Late Antiquity, one can refer to John Chrysostom, *Contra virgines subintroductas* 2 & 3 (PG 41, 516 & 518) who states that midwives should not only be involved in confinements, but should also take care of women during their illnesses. When a monk attends a woman who gives birth in the portico of the church, he is said to carry out the task of a 'female doctor', a *ιατρίνη* (*Hist. Laus.* 68, 3). See Robert (1964) 175-176.

midwives.³⁰ A most vivid picture of female reluctance to confront a male physician, is offered in Galen's writings on case of the wife of Boethus. Since she was very ill, her husband decided to call upon a doctor. The woman, however, preferred the company of her female servants and a nurse. When bathing together with her female companions, she did not allow Galen to attend her.³¹

Normal deliveries needed the presence of one midwife and three assistants.³² Also in the event of legal problems (a widow gives birth after her husband's decease, which requires verification whether the new heir is indeed legal and not a changeling) the birth remained an exclusively female concern. In those cases the required presence of midwives and assistants was doubled for that matter (two midwives and six female slaves) and at most ten free-born women were to act as witnesses. Three men and three women guarded the entrance to the room of confinement.³³ Male ignorance of childbirth is the subject of mockery with comedians.³⁴ Nevertheless the exclusively female character of deliveries should be put into perspective. When a delivery does not pass off smoothly a male physician's help was called on.³⁵ Wealthy families who disposed of a slave-physician brought in the latter's help during childbirth. On reliefs physicians are shown while they assist a midwife in the exertion of her task.³⁶ Men (mostly fathers) were involved in preparing a birth and played a part after the delivery.³⁷

³⁰ Cyprianus, *Epistulae* 4.4.

³¹ Galen, *De venae sect. adv. Erasistratum* 3 (11.200 K.) and *Praecogn.* 8 (14.641-647 K.). Both passages are aptly translated by Gourevitch (1995) 2089-2092.

³² Sor. *Gynaecia* 2.5.

³³ Ulp. *dig.* 25.4.1.10. See Hanson (1994) 175-176 and Rawson (2003) 100.

³⁴ See Ar. *Th.* 502-516 where a midwife and a mother simulate a ten days pregnancy till they have found a supposititious child. According to Hanson (1994) 179 the joke only works because the audience was aware of the husband's ignorance. French (1999) 163-181 deals with the limited knowledge of men concerning birth and young children.

³⁵ Hanson (1994) is the standard article on gender roles in Greek and Roman births. See esp. p. 174-175 for cooperation between midwives and doctors in the case of difficult childbirths: Hipp. *Mul.* 1.46; 1.68; *Carn.* 19.6. According to Sor. *Gynaecia* 4.3 & 4.8 the manual turning of a child in the womb can be carried out both by a midwife or a physician. See Hanson (1994) 195-198 and Gourevitch (1995) 2123-2124 on ancient medicine and difficult childbirth.

³⁶ French (1986) pl. II & III. See also Galen, *De fac. nat.* 3.3 (2.150 K.) on midwives and male doctors.

³⁷ Hanson (1994) 159-160 & 198.

The vital role of Roman midwives

It would hardly be an exaggeration to say that midwives occupied a vital role in the education of children. Indeed, they decided whether an infant had any chance of survival.³⁸ First it was established whether the baby was male or female. Then the suckling was stood on the ground and his viability assessed, allowances being made for the duration of the pregnancy, the health of the mother, for the baby's crying when touching the ground, the proportions of the limbs, the sensory reactions.³⁹ Only then was it decided to cut the umbilical cord.⁴⁰ Apparently, the presence of a midwife was considered normal, her absence was specifically mentioned.⁴¹ What is more, according to the comical tradition they sometimes brought in another baby, a changeling, in case a still-born baby would be delivered.⁴² However the practice of a supposititious child was punished by death according to the *Sententiae* by Paul.⁴³ If a wife denied being pregnant, the husband was entitled to ask for an examination by a skilled midwife.⁴⁴ Even in the case of disputes as to whether someone was free-born or slave a midwife's testimony could be called in.⁴⁵

Midwifery and folklore medicine

Olive oil, warm water, sponges, wool and bandages, a maternity chair, surgical tools, they all belonged to the standard equipment of the average midwife.⁴⁶ Obstetrics however, also included a strongly

³⁸ For a macabre case, see Ammianus Marcellinus, *Hist.* 16.10.19 (in Gaul, midwives kill sucklings for payment by cutting off the umbilical cord too shortly).

³⁹ Sor. *Gynaecia* 2.10. On the raising of babies and the goddess *Levana*, see Tertullian, *Ad. Nat.* 2.11 and August. *C.D.* 4.11. See Corbier (1999) 1262-1263 and Shaw (2001). Sor. *Gynaecia* 1.70 mentions the danger of hurting the little child in the case of inexperienced midwives.

⁴⁰ Sor. *Gynaecia* 2.11. For a telling comparison, see Pl. *Tht.* 151a-e; 157c-d: Socrates warns not to act irrationally like the mother who became angry with the midwife who found a baby unable to survive and who removed the infant secretly.

⁴¹ Pl. *Truc.* 414.

⁴² Ter. *An.* 515 and 769.

⁴³ *Pauli Sent.* 2.24.9.

⁴⁴ Ulp. *dig.* 25.4.1. See Eichenauer (1988) 236.

⁴⁵ Pl. *Capt.* 675-677.

⁴⁶ For midwives' equipment and illustrations of archaeological finds, see Hanson (1994) 161-170; French (1986) 76-78 and Demand (1995).

folkloristic and – to our modern standards superstitious – aspect.⁴⁷ It was considered therapeutic to sit next to a pregnant woman with fingers crossed on the knee. The greasy fumes of a hyena's loin would help in case of a laborious delivery. So would a hyena's paw put on the women in labour. Pulverized manure of sows mixed with water, sows' milk with honey wine, semen of the goose or the excretions of the weasel mixed with water are all being quoted as efficacious means. Amulets, even putting the placenta of a dog on the thighs of the woman are mentioned.⁴⁸ Also for the care of mother and child in the first days after the birth use is being made of tasteless, popular remedies like drinking the droppings of mice diluted with rain water, asses' milk or rubbing the breasts of the mother with sows' blood, geese fat with oil and /or the fat of a bustard.⁴⁹ V. French has pointed to the fact that mother and suckling are surrounded by much care and attention,⁵⁰ and to the eventual placebo-effect of such-like actions and the beneficial consequences of frequent drinking. The debit side mentions the great danger of infections.

It would seem that the midwife methods as described by Pliny were practices the majority of the population was acquainted with. Parallels for such like practices are to be found in contemporary traditional popular medicine from various countries and traditions.⁵¹ Connections between midwives and wise old women (*sagae* or witches) had already been found ever since Antiquity.⁵² In the comical tradition the midwife is sometimes introduced as an old, drunken slut.⁵³ This popular character, mixed with an aura of social inferiority also turns up in legal texts. With reference to the application of the *Lex Aquileia* midwives together with physicians enjoy a relatively low social status (*dig.* 9.2.9.1)

⁴⁷ For specific studies on Roman traditional folk medicine, see Scarborough (1993) 13-22; Riddle (1993) 117-120. McDaniel (1948) specifically deals with childbirth.

⁴⁸ French (1986) 71 and 77-80, referring to Plin. *Nat.* 28.59; 28.102; 28.249-250; 30.124; 30.123.

⁴⁹ French (1986) 79-80, referring to Plin. *Nat.* 30.124; 28.250; 30.131. ...

⁵⁰ Compare the statement by Timaeus in D.S. *Bibl.* 5.14.2. He expresses his astonishment at the fact that people in Corsica do not know the practice of childbed for women. Instead, their husbands lie in bed as if they had suffered the pains of childbearing.

⁵¹ French (1986) 80.

⁵² Scarborough (1979) 19.

⁵³ Ter. *An.* 228-233. According to Artem. 3.32 dreaming of a midwives often implies a bad omen. See also Juv. 2.137-142.

The epigraphical dossier

To what extent can the popular, low status of midwives be corroborated or adjusted by an exhaustive dossier of attested inscriptions? Files of epigraphically attested *obstetrices* have already been laid down, but the results are rarely integrated in studies on women in ancient medicine. Moreover, neither of the available lists is complete.⁵⁴ French (1986) in the best overall article on midwives collected only the testimonies from Rome (*CIL* 6) interpreting them either quite summarily or sometimes erroneously. On the basis of the *Epigraphik Datenbank* by M. Clauss a file of all attested Latin inscriptions for *obstetrices* was compiled which could complete the sociological profile of midwives (see chart Appendix).

The Latin file contains a strikingly high number of freedwomen (11 out of 31 establish themselves as *libertae*, while two more were almost certainly freedwomen which results in 42 %). It is likely that we are to do with female slaves who, by way of thanks for services rendered, were freed. However, since it is not possible to find actual infants in the inscriptions for freedwomen, no certainty can be attained as to this point. Whether we are to think of old 'dismissed' female slaves is far from certain. We know the age of three *libertae*: a woman aged 21 (nr. 13 from Rome), another young imperial freedwoman from Surrentum aged 24 (nr. 3 from South of Italy), and a 35-year-old *liberta* from Salona in Dalmatia (nr. 1 from the Danube provinces). Another nine cases (29 %) in all probability point to slave status. So, over 70 % of the material points to a slave origin or status. Five cases deal with slaves or freedwomen of the *familia Caesaris*, the elite among the Roman slave population.⁵⁵ The link with slavery is most probably even larger, since some names among the uncertain cases (in the list marked with *ing (?)/l (?)* – a total of nine cases or 29 %) may also point to freedwomen.⁵⁶ Indeed, not a single woman that can undoubtedly be considered as freeborn is attested in the inscriptions. The link with slavery corresponds with the figure known for female *medicae* in the

⁵⁴ Eichenauer (1988) 237-240 and Caldelli (1991) 309.

⁵⁵ Nrs. 7, 8, 9 and 17 (Rome); nr. 3 (South of Italy).

⁵⁶ This is most probably the case for Greek names as Claudia Trophime (nr. 10 Rome); Taxis Ionidis (nr. 17), Coelia Hagne (nr. 1 South-Italy) and Iulia Pieris (nr. 1 Tres Galliae et Germaniae).

western part of the Empire.⁵⁷ It should be noted though that the number of slave cases in our list is high owing to the preponderance of Roman inscriptions from the columbaria of the great *familiae* of the imperial family (nrs. 5 – 17 Rome).⁵⁷ This is also an indication of the fact that large families could employ their own midwives. Possibly the mentioning of a child which has been looked after by the midwife reveals the act of gratitude of one specific family (nrs. 3, 4, 8, 15 and 17 Rome) at which the midwife was employed at that time.

Only in eleven cases (35 %) is the age mentioned. Poblícia Alphe is the youngest midwife, aged only 21 (nr. 13 Rome); Claudia Trophime is the oldest aged 75 (nr. 10 Rome). The age-grouping of midwives does not allow to conclude that predominantly elder women were concerned:

20-29 yrs.:	3
30-39 yrs.:	4
40-49 yrs.:	2
50-59 yrs.:	1
60-69 yrs.:	0
70-79 yrs.:	1

In some cases, the dedicatees concerned in some cases shed further light on the social relations of the midwives. In the context of the imperial household, there is the dedication of Maximus' mother Epicharis and most probably Maximus' concubine Asterope for his former midwife Prima (nr. 8 Rome). Interesting is the mention of a *medicus*, with whom the midwife collaborated (nr. 1 African provinces). A partner dedicates in favour of the deceased Hygia (nr. 3 Rome – the term *contubernalis* refers to a slave marriage), Ulpius Zosimus commemorates his deceased wife Coelia Hagne (nr. 1 South of Italy), P. Flavius Cornelius Felix sets up an inscription for his wife Caelia Bonosa Mazica (nr. 3 Africa). On the basis of onomastic grounds or context we can presume more partners in nrs. 5, 6, 11, 14, and 16 (Rome; four times it is about *liberti*; in nr. 11 the male partner may have been freed by his wife who was a midwife and a freedwoman herself). Also nr. 4 from the African provinces may point to partners. Other forms of kinship or social relationships are son (nr. 2 Central

⁵⁷ Buonopane (2003) 123-125 states that 50 % of those women were of servile or freed status.

Italy), son and grandson (nr. 10 Rome), *vicarii* (nr. 17 Rome), brother (nr. 2 African provinces).

The humble origin of the majority of midwives does not mean for that matter that they led a life of poverty. In a comedy by Plautus we read of the high price a midwife would ask, a third century marriage contract shows expenses to the tune of 40 drachms for a midwife, by no means a petty quantity.⁵⁸ In some legal texts *obstetrices* are put on a par with physicians. This fact, however, may not be filled in too optimistically: one text deals with physicians and midwives as slaves, in another one we should bear in mind that travelling physicians did not always enjoy a high status (charges of charlatanism in a society without recognized certificates were never fully unjustified) – even if they managed to earn a good living by practising their profession.⁵⁹

Soranus' ideal midwife

The popular-superstitious nature of obstetrics and the humble origin of their practitioners appear to contrast with the high-minded picture we find in a text by Soranus. One may wonder whether Soranus refers in this case to a different tradition (did the East know of more specialised and valuable midwives?) or whether other explanations are needed.

The inscriptions from the western part of the Empire do appear to make a distinction between *obstetrices* and women of great skill in medicine.⁶⁰ In Emerita (Lusitania) Cassius Philippus had a monument built for his wife with at the back of it a picture of a swaddled baby. Undoubtedly the picture serves to emphasize the qualities of Julia Saturnina as to her care for the little ones – however, she is called *medica optima*, not *obstetrix* (CIL 2.197). An inscription from Rome by a daughter and husband is directed at Valeria Berecunda, who is called *iatromea regionis suae prima* (CIL 6.9477).⁶¹ A very laudatory

⁵⁸ Pl. *Mil.* 697; *P.Oxy.* 1273, 1 33-34. See French (1986) 83 note 34 for comparisons with other wages.

⁵⁹ Ulp. *dig.* 9.2.9 (about the administering of medicines); *Cod. Iust.* 6.43.3 (price value of slaves); Ulp. *dig.* 50.13.1.2 (doctors and *obstetrices quae utique medicinam exhibere videtur* have access to the province governor for trials about salaries).

⁶⁰ Buonopane (2003) 118-120.

⁶¹ *Iatromeia* and the Greek equivalent *ιατρομαῖα* (see *Mama* 3, 292) most probably point to a higher level of knowledge and esteem than ordinary midwives. See Robert (1964) 177 and Buonopane (2003) 119. Only three inscriptions for *iatromaeae* are attested: CIL 6.9477; 9478 and an inscriptions edited by H. Solin, *Arctos* 20 (1986) 163-164 and *Arctos* 21 (1987) 128. See also Caldelli (1991) 306.

inscription from Capua addressed to Scantia Redempta praises her *pudicitia* and *pietas*, her honest morals and her medical skill: *(t)enacitatis magistra ver(e)cundiae antistis disciplin(ae in) medicina fuit* (CIL 10.3980).⁶² Also in the Greek East, some evidence points to a distinction between midwives and female physicians.⁶³

The distinction that is introduced between *medicae* and *obstetrices* is an interesting detail but it does need nuancing. In practice a fusion of both tasks will certainly have occurred.⁶⁴ Moreover it is far from certain that a homogeneous group of *obstetrices en bloque* is pitted against a homogeneous group of *medicae*. As I shall demonstrate, the borders were elsewhere and the uniformity within the groups was not particularly great.

The distinction Soranus himself makes between μαῖα (*obstetrix*)⁶⁵ and ἰατρὸς γυναικεῖος (*Gynaecia* 3.3.1) may refer to a difference at least in Soranus' concept of a physician.

A rich source of information is offered in Soranus' *Gynaecia* 1.3-4, a passage that contains a description of the ideal midwife (τίς ἀρίστη μαῖα).⁶⁶ In a systematic way we are given a list of the required qualities plus the why of these requirements of which here a summary:

- 1) Trained and discerning: a midwife must already have had a training in order to be able to learn the theory of the profession; in addition she should be discerning in order to understand everything. Theoretical knowledge then appears to be important, as well as a preparatory basis of study. Apparently a high degree of literacy is considered obvious. The contrast with everyday practice – in which the profession was taught by way of oral tradition – is glaring.
- 2) A good memory in order to have lasting command of the material handed down.

⁶² Gourevitch & Raepsaet-Charlier (2001) 185-186 and Treggiari (1976) 86 deal with *medicae*.

⁶³ Kampen (1981) 9-72 and 116-117. According to Flemming (2000) 39; 266 & 272 Galen usually makes a strict distinction between doctors and midwives. As evidence for this, she cites Galen, *De venae sect. adv. Erasistratum* 1 (11.188 K.).

⁶⁴ Apul. *Apol.* 69. Also Buonopane (2003) 120 recognizes the fact that fusion between the two professions must have existed in practice. See Buonopane (2003) 118 referring to *Interpr. Pauli Sent.* 2.25.8: *obstetrices, id est medicae*. See also Ulp. *dig.* 50.13.1.2 en *Cod. Iust.* 6.43.3.

⁶⁵ Μαῖα: *medica vel obstetrix*: CGL 6, 670.

⁶⁶ This text is commented upon by Temkin (1956); Burguiere, Gourevitch & Malinas (1988-2000) and Victor (1989).

- 3) Willingness to work in order to carry on in the event of unexpected incidents. Re-markable is the addition that whoever wants to teach midwifery' knowledge, needs to have the drive of a man (δεῖ γὰρ ἀνδρώδους τληπαθείας). This passage fits in with a tradition that states that the ideal physician should necessarily be a man⁶⁷ and at the same time is a classic example of the application of the concept of differential equations, to which I will return later in this contribution.
- 4) Also moral qualities matter greatly: decency is required because knowledge of intimate information of families could be a pretext for ill-disposed women for scheming and plotting.
- 5) The sense of touch, sight and hearing have to be perfect in order to carry out gynecological interventions and interview patients.
- 6) The requirement of being straight-limbed is justified by the fact that a lot of work is done upright and many visits have to be paid, but is probably also a physiognomic requirement (where straightness is associated with moral righteousness).
- 7) The possession of long, slender fingers and short nails is required so that she could touch deep lying inflammations without causing too much pain.
Soranus still takes us further in *Gynaecia* 1.4 where he states that a good midwife is the one that reaches medicine's objective. The best midwife, however, is she who next to practical knowledge is well up in the theory. The ideal midwife now almost reaches the level of a physician.
- 8) She must prescribe dietary rules, practise surgical interventions and cure through medication, deliver hygienic prescriptions, tell the general from the specific. Her diagnoses and methods must be stable so as not always to change

⁶⁷ It is telling that no Soranus' commentator has pointed to this fact. Clear examples can be found in the story about the girl Agnodikè who disguised herself as a man in order to be able to study medicine (Hyg. *Fab.* 274) or Ausonius' remark about his aunt Aemilia Hilaria: *reddebas verum non dissimulanter ephebum, more virum medicis artibus experiens* (*Par.* 8, 5-6). It is striking that the same prejudice appears in modern scholarship. It has been assumed that Metilia Donata (*CIL* 13.2019), *medica* in Roman Lugdunum, was a wealthy women who practised a certain form of medicine by way of charity. Since she was a woman, she could not possibly have been a 'real' physician. See on this misconception, Buonopane (2003) 113-115.

methods when symptoms change. She is to provide explanation, sympathy and comfort to the sick without a trace of agitation.

- 9) As to age it is stated she does not have to be necessarily young (the addition in 1. 4.4 makes it likely that some people would have found a young age desirable). Moreover Soranus states that it is not at all necessary for the midwife to have gone through a pregnancy herself.
- 10) Further moral qualities are again elaborated on: midwives must always be sober-minded and level-headed (the comical tradition leads one to suspect the contrary). They must keep the secrets that are being entrusted to them, nor are they allowed to be selfish so that they do not carry out an abortion for the sake of money.
- 11) Remarkable in the light of the passages discussed in Pliny the Elder is the emphatic demand for her not to be superstitious and not to be allowed to be led by omens or popular cult.⁶⁸
- 12) Finally the aspect of manual care is again repeated, as is the requirement to have soft hands.⁶⁹

The concept of differential equations as a solution for the paradox

How can we fit in the apparent discrepancy between the high, idealising Soranus passage and the popular character of midwives with ancient society? Can we really imagine Soranus bothering about women's rights or promotion? Of course, both the positive and the negative image of midwives must have some ground in reality. People would acknowledge the puns about dirty and ugly old *obstetrices* in comedies, as well as Soranus' readers might recognize the picture he draws of the professional midwife.

It does not appear to be a good option to strictly distinguish between physicians on the one hand, who then are necessarily considered as highly trained and respected, and midwives on the other hand. It would be evidence of a anachronistic disposition to scan the ancient sources in search of female physicians and to conclude from their activity that women in Antiquity more easily got access to this prestigious

⁶⁸ In reality, midwives were superstitious. See Evans (1991) 123-127.

⁶⁹ Cilliers & Retief (1999) 62 make the interesting suggestion that soft hands discern midwives from 'ordinary' women trained in wool-dressing.

profession than their counterparts who had to fight right up to the twentieth century for a similar acceptance in the profession.⁷⁰ Certainly examples of female physicians from Antiquity who enjoyed prestige and consideration are known⁷¹, at times these women explicitly allude to their culture and literacy.⁷² However, the point is not the contrast physicians – simple midwives or assistants in matters medical, but rather the fundamental distinction between the literary-philosophical physicians from the classical medical schools (a small minority well-known from their writings left to us) and the vast majority of ‘popular’ practitioners (male or female) of medicine. The social status and reputation of physicians in Antiquity was certainly not always prominent. To be sure the literarily trained physicians of the leading medical schools and the privileged *archiatroi* belonged to the favoured part of the population.⁷³ Many doctors, however, were thought to be craftsmen and belonged to the low strata of society. Limited medical knowledge and lack of state control led to the profession being open to any would-be physician. In this area of former slaves and lower workmen, also women could come into their own. The boundaries between medicine and pharmacy, charlatanism, poisoning and sorcery were often vague.⁷⁴ In the same way the exercise of medical specialisms in the modern sense of the term was unknown. R.P.J. Jackson refers to *a blurring of the edges between ‘medica’ and ‘obstetrix’*.⁷⁵ The fierce invectives against the unreliability of physicians were not altogether undeserved.⁷⁶

It is understood that Soranus as a predecessor of the methodical school has a lofty idea of the task of a physician.⁷⁷ The chapters on the ideal midwife, however, take us further. His demanding description of

⁷⁰ This is however the explicit statement by Cilliers & Retief (1999) who consider the acceptance of women to the physicians’ profession as counter-evidence for feminist theories about contempt for women in Antiquity (see mainly p. 48-49).

⁷¹ Cilliers & Retief (1999) 53-59 give a summary of literary and epigraphical evidence.

⁷² As in the case of Naevia Clara, called *medica philologa*. See Buonopane (2003) 130 note 10.

⁷³ Scarborough (1993) 40-48 on *learned medicine and the philosopher-physicians* and Jackson (1993) 80-84.

⁷⁴ See Plin. *Nat.* 28.70 on popular cures handed out by *obstetrices* and *meretrices*. According to Pliny, one should not put too much trust in such medicines.

⁷⁵ For excellent observations on the low status of physicians in ancient society, see Pleket (1983); Gourevitch (1984) p. 227; Scarborough (1993) 33-40; Jackson (1993) 84-87 (n. 59 about doctors and midwives); Robert (1964) 176 also on the blurring of the categories.

⁷⁶ Plin. *Nat.* 29.1.1-8.28. See Scarborough (1993) 13 and Jackson (1993) 80.

⁷⁷ Hanson & Green (1994) 993 on the popularity of the methodological school.

the ideal midwife most likely corresponds more to an wish dream than to reality. With the job description of the technically and theoretically trained, hygienic, empathic, physically and morally high-minded midwife Soranus offers a picture that is far removed from the bulk of *obstetrices* of his age. As a general rule they were of humble origin, passed on their secret knowledge from woman to woman and were engaged in superstitious and popular practices.

But why then does Soranus so emphatically uplevel these outsiders in ancient society? In order to understand Soranus' upgrading of midwives, the methodological concept of *differential equations* can be of use to ancient historians. That midwives were sometimes frowned upon confirms their being linked with a low social origin and the disdain of the higher classes they met with on that account. On the other hand the very same midwives were as it were upgraded, as were also other educators of low status. Apparently, aristocrats did not feel at ease with the idea that their children were being entrusted to the care of social outsiders. Hence, the wet nurse is described in terms of manliness and military commandership; the pedagogue as a strict and morally perfect guardian, yes, even as a mother or a father. Teacher and grammarian are depicted as strict but just father figures, guardians who permit access to the temple of knowledge.⁷⁸ As such, the idealised representation of Soranus is also an example of *differential equations* in the process of which a crucial figure in the life of a child (she had indeed control of the life and death of the suckling) is being upgraded to the level of a professional physician. In this very same process, the aspects that refer to a lower social status are subtly masked or

⁷⁸ On the concept of differential equations, see Joshel & Murnaghan (1998) 1-21. In Joshel and Murnaghan's volume the concept is applied to the representation of women and slaves. For an application to the image of the Roman *paedagogus*, cf. Laes (2004b). For wet nurses, cf. Cic. *Leg.* 1.17.47 and Sen. *Ben.* 3.29.7 (equation with father); August. *Conf.* 9.8.17 (male authority). For teachers: Ausonius, *Protr. ad Nep.* 69-72 (Ausonius assumes the airs of teacher and grammarian); Apul. *Fl.* 18.8 and August. *De util. cred.* 3.9 (necessity to honour schoolmasters, in Apuleius even as parents). For grammarians and their sacred task: Quint. *Inst.* 1.4.6 (*interiora velut sacri huius adeuntibus*); Flor. *Verg.* 3.8 (*praecipientem bonos mores et sacrarum studia litterarum*). Cf. Kaster (1988) 16-17. Libanius also calls his pupils his children: παῖδας γὰρ ἐγὼ καλῶ τοὺς μαθητὰς (*Ep.* 1266, 13), cf. Petit (1956) 33-35. Explicitly mentioned by Libanius in *Ep.* 806; 868; *Or.* 62.27. Pupils as sons united in eloquence: Lib. *Ep.* 936; 960; 1071; 1109. Cf. eventually Quintilian's statement, *Inst.* 2.9.1-2: *ut praeceptores non minus quam ipsa studia ament, et parentes esse non quidem corporum sed mentium credant.*

ignored.⁷⁹ The point is not that Soranus promotes these women to physician *tout court*; however, he does promote them to the ideal first educators of the baby of wealthy Roman aristocrats who were the bulk of his clientele. As such, this upgrading testifies of the great value attached to children in Roman society.

⁷⁹ Sor. *Gynaecia* 3.3: γυναικείους τινὰς λέγομεν ἰατρούς, ὅτι τὰ γυναικῶν θεραπεύουσι πάθη, καὶ μαίᾱς ἐν ταῖς νόσοις ὁ βίος εἴωθεν παρακαλεῖν, ὅταν αἱ γυναῖκες ἰδίον τι ἀσχῶσιν καὶ ὃ μὴ κοινόν ἐστὶν πρὸς τοὺς ἄνδρας. Note that in this passage, female doctors and midwives are almost put at the same level. Gourevitch (1995) 2088 comes near to the concept of *differential equations*: *On comprend que Soranos ait un gros effort à faire pour restaurer la belle image de la sage-femme*. Also Flemming (2000) 232 acknowledges a considerable form of idealisation in Soranus' picturing of the ideal midwife and doubts whether the images resembles every day reality.

Latin Inscriptions for Midwives in the Imperium Romanum

REFERENCE	NAME	AGE	STATUS	TEXT
<i>CIL 3 (Danube provinces and the East)</i>				
1. 3, 8820 = <i>ILJug.</i> 1, 125	Aelia Sotere	35 y.	l.	<i>D(is) M(anibus) / Aeliae Sotere ob/stetrici def(unctae) an(norum) XXXV / Ael(ius) Antonianus / Themistocles / libertae b(ene) m(erenti).</i>
<i>CIL 6 (Rome)</i>				
1. 6, 4458	Hygia Marcellae l.	--	l.	<i>Hygia/ Marcellae l(iberta)/ obstetrix.</i>
2. 6, 6325	Secunda	--	S (?)	<i>Secunda /opstetrix/ Statiliae Maioris.</i>
3. 6, 6647	Hygia	30 y.	s.	<i>Hygiae / Flaviae Sabinae / opstetr(ici) vixit ann(os) XXX / Marius Orthrus et / Apollonius contubernali / carissimae.</i>
4. 6, 6832	Sempronia	?	s.	<i>Sempronia Peloris/ Atratinae opstetri(x)/ [---]ris v(ixit) a(nnos) [---]</i>
5. 6, 8192 = <i>AE</i> 1999, 24	Sallustia Artemidori l.	--	l.	<i>Q(uintus) Sallustius/ Diogae l(ibertus)/ Dioges// Sallustia Artemidori l(iberta)/</i>
6. 6, 8207	Athen[ai]s Sallustia Q. l. Imerita	--	l.	<i>Athen[ai]s/opstetrix. Sallustia Q(uinti) l(iberta) Imerita opstetrix// Q(uintus) Sallustius Q(uinti) l(ibertus) Artimidorus/ p(atronus ?).</i>
7. 6, 8947 = <i>AE</i> 2000, 132	Antonia Aug. l. Thallusa	--	l.	<i>Antoniae Aug(ustae) l(ibertae)/ Thallusae/ opstetric(i).</i>
8. 6, 8948	Prima	--	s (?) ⁸⁰	<i>Prima Liviae opstetrix Asterope Maximi/ Epicharis Maximi mater.</i>
9. 6, 8949	[Iul]ia	--	l.	<i>[Iul]iae/ [div]ae Aug(ustae)</i>

⁸⁰ I take it that this is the dedication of Maximus' mother Epicharis and most probably Maximus' concubine Asterope for his former midwife Prima.

	[div]ae Aug. l. [...]sia			<i>l(ibertae)/ [...]siae/ obstetrici.</i>
10. 6, 9720	Claudia Trophime	75 y. 5 m.	ing (?)/ 1 (?)	<i>Claudia Trophim(e)/obs(t)etrici/ T(itus) Cassius Trophimus f(ilius)/ matri pientissimae et / Ti(berius) Cassius Trophimianus/ aviae et posterisque suis/ fecerunt/ vix(it) ann(os) LXXV m(enses) V.</i>
11. 6, 9721 + 9721 a	Grattia m(ulieris) l. Hilara	--	l.	<i>C(aius) Grattius/ Hilarae/ opstetricis l(ibertus)/ Plocamus/ a monte/ Esquilino. // Grattia m(ulieris) l(iberta) Hilara.</i>
12. 6, 9722	Iulia Veneria	--	ing (?)/ 1 (?)	<i>D(is) M(anibus)/ Iuliae Vene/riae ops(t)etr/ci b(ene) m(erenti)/ fecit/ Iulius He [-- -</i>
13. 6, 9723 (p. 3470, 3895)	Poblicia (mulieris) l. Aphe	21 y.	l.	<i>Poblicia (mulieris) l(iberta) Aphe / opstetrix ossa tibi / bene quiescant / vixit annos XXI.</i>
14. 6, 9724 = ICUR 3843 = ILCV 618	?	--	ing (?)/ 1 (?)	<i>Jantiu[--- V]aleriae Syre / [- --] qu(a)e vixit annis XXXI / [--- cum coniuge s]uo fecit annos VIII et / [--- de]posita pri(die) Idus Novem(bres) / [---]a filia obs(t)etricis.</i>
15. 6, 9725 + 27558 ⁸¹	Volusia Dmoenis	--	l (?)	<i>[D(is)] M(anibus) s(acrum)/ [Volusia]e D[m]oeni/ [Volusiae To]rquataes opsetrici/ [Cl]audia Nome/ [de s]e bene merenti.</i>
16. 6, 37810	Teidia Sex. l.	--	l.	<i>Sex(tus) Teidiu[s Sex(ti) l(ibertus)] / Ante[ros] / Teidia Sex(ti) l(iberta) [---] / opstetri[x].</i>
17. AE 1926, 52	Taxis	30-	l (?)	<i>Taxis Ionidis Iulia[e</i>

⁸¹ This new reading is suggested by M. Buonocore, *Schiavi e liberti dei Volusi Saturnini. Le iscrizioni del colombario sulla Via Appia antica* (Rome, 1984) 133.

= AE 1991, 127	Ionidis	40 y.		<i>Aug(ustae)] opstetrix v(ixit) a(nnos) XXX [...]/ Hesper et Epitync[hanus] vicari de suo [fec(erunt)].</i>
18. AE 1991, 126 = Caldelli (1991) n. 49	Helena	--	s (?)	<i>Helena/ Lucretiae/ opstetrix.</i>
CIL 8 (African provinces)				
1. 8, 4896 = <i>ILAlg.</i> 1, 1377	Irene	33 y.	s (?)	<i>Diis M(anibus) sac(rum)/ Irene ops(t)e/trix Fausti/ D() S () S () medici/ v(ixit) a(nnos) XXXIII.</i>
2. 8, 5155 = <i>ILAlg.</i> 1, 887 (AE 1914, 240)	Caelia Victoria	26 y.	ing (?)/ 1 (?)	<i>D(is) M(anibus) s(acrum)/ Noviae/ Dativae/ boni o/minis/ feminae/ piae qui (sic)/ v(ixit) a(nnos) XXXV/ h(ic) s(ita)./ D(is) M(anibus) s(acrum)/ Caeliae/ Victori/ae obste/trici ra/rissim(a)e/ piae quae/ vixit/ an/nis XXVI/ h(ic) s(ita)// [C]ae[l]i[u]s Nori[cus] coniugi et/ [so]ror[i] caris[si]mis.</i>
3. 8, 15593 (p. 2698) = <i>ILPBardo</i> 385	Caelia Bonosa Mazica	42 y. 3 m.	ing (?)/ 1 (?)	<i>D(is) M(anibus) s(acrum)/ Caelia Bono/sa Mazica/ obstetrix ma/rita castissima et pudicis/(sima) vixit/ annis XXXXII/ m(ensibus) III h(ic) s(ita) e(st). // D(is) M(anibus) s(acrum)/ P(ublius) Flavi/us P(ubli) f(ilius)/ Corn(elius)/ Felix/ p(ius) vixit a(nnis) / LXXV/ m(ensibus) VI/ h(ic) s(itus) e(st).</i>
4. 8, 25394 = <i>ILPBardo</i> 449 = <i>IL Afr</i> 427 (AE 1903, 107; AE	Licin(i)a Victoria	49 y. 6 m. 13 d.	ing (?)/ 1 (?)	<i>[D(is)] M(anibus) s(acrum) / [...]inia Victoria / [obst]etrix p(ia) v(ixit) a(nnos) XLVIII / [m(enses)] VI d(ies) XIII / h(ic) s(ita) e(st) // T(erra) / t(ibi) /</i>

1913, 166)				<i>l(evis) / s(it) // [O(ssa)] / [t(ibi)] / [b(ene)] / [q(uiescant)] // D(is) M(anibus) s(acrum) // L(ucius) Valerius / Valerianus / pius vixit / annis LXII / m(ensibus) V dies VII // Licin(i)a / Victoria / opsetrix(!) / pia vixit / annis IL / m(ensibus) VI d(iebus) XIII // O(ssa) / v(obis) / b(ene) q(uiescant) // T(erra) / v(obis) / l(evis) / s(it).</i>
5. <i>AE</i> 1980, 936	Aurelia Ma[c]ula	56 y.	ing (?)/ l (?)	<i>D(is) M(anibus) s(acrum)/ Aurelia Ma/[c]ula p(ia) vixit/ annis LVI/ obs(t)etrix.</i>
<i>CIL</i> 10 (South of Italy)				
1. 10, 1933	Coelia Hagne	--	ing (?)/ l (?)	<i>D(is) M(anibus)/ Coelia Hagne / obs(t)etrici/ M(arcus) Ulpius Zosimus/ coniugi sanctissim(ae).</i>
2. 10, 3972	Maria Peregrina	--	l.	<i>Mariae/ (mulieris) et Suavitti l(ibertae)/ [P]eregrinae opstetrici.</i>
3. <i>AE</i> 2005, 328	Secunda	24 y.	l.	<i>Secunda / Aug(usti) l(iberta) opste/trix vix(it) ann(os) XXIV.</i>
<i>CIL</i> 11 (Central Italy)				
1. 11, 3391 = Caldelli (1991) n. 50	[V]olu[si]a	?	s (?)	<i>[V]olu[si]a [--]/ opstetrix/ vixit annos [---]</i>
2. 11, 4128	Hygia	--	s (?)	<i>Hygiae / Autroniae Fortunat(ae) / opstetrici / fecit Fidus / filius.</i>
<i>CIL</i> 12 (Gallia Narbonensis)				
1. <i>AE</i> 1979, 396 = <i>ILN</i> 1, 30	Cleopa[tra]	--	s (?)	<i>Niger P[---]/ et Cleopa[trae- -]/ suae opst[etrici?]/ f(ecit).</i>

**CIL 13 (Tres
Galliae et
Germaniae)**

I. 13, 3706	Iulia Pieris	--	ing (?)/ l (?)	<i>Iulia Pier/is obstetrix/ hic iacet/ nulli gra/vis.</i>
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Teaching the Hippocratic Gynaecological Recipes?¹

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Summary

This paper investigates whether the recipes preserved in the main gynaecological treatises – *Diseases of Women* 1 and 2, *Barrenness* and *Nature of Women* – may have been used as a teaching device. I ask two questions: first whether the recipes could have been included in oral lectures before being written down; and second whether the written recipes could have served as a basis for teaching.

Beginning with Johannes Ilberg in the 1920s, scholars have often argued that the main Hippocratic gynaecological treatises (*Diseases of Women* 1 and 2, *Barrenness* and *Nature of Women*) – or parts of these treatises – might have originated as oral medical lectures.² Indeed, the verbs λέγω, φημι, and εἶρω (I say) are used regularly in the gynaecological treatises, especially in the sections of *Diseases of Women* 1 that Hermann Grensemann has attributed to his authors C, as well as in the treatise *Barrenness* (layer D).³ As noted by Iain Lonie,

¹ This paper is a version of parts of chapters 1 and 6 of my *Hippocrates Recipes: Oral and written Transmission of Pharmacological Knowledge in Fifth- and Fourth-Century Greece* (Leiden: Brill, 2008), reprinted here with permission.

² See for instance Ilberg (1925) 23 (who calls these lectures ‘akroaseis’); Jouanna (1984) 29–32; Kollesch (1992) 339–342; Lonie (1981) 51.

³ References to speaking in chapters attributed to layer C: *Hipp. Mul.* 1.1: φημι (8.10.1; 12.6 L.); εἶρηται (8.10.7; 12.6 L.); *Mul.* 1.2: εἶρηται (8.18.18; 20.1 L.); *Mul.* 1.25: ἐρέω (8.64.12 L.); φημι (8.64.13 L.); *Mul.* 1.62: εἶρηται (8.126.5 L.); *Mul.* 1.72: εἶρηται (8.152.1 L.).

Layer D: *Mul.* 3.213: εἶρηται (8.408.2; 412.9 L.); φημι (8.408.4 L.); τῶν εἰρημένων (8.408.10; 412.2, 12, 19; 414.3 L.); εἰρήσεται (8.408.19 L.). For the division into layers, see Grensemann (1975); (1982); (1987).

these references to speaking in the latest layers of the gynaecological treatises appear in chapters that do not include therapy.⁴

On the other hand, references to speaking very rarely occur in the earliest layers of Grensemann (layers A and B).⁵ *Nature of Women*, which Grensemann believes to be the earliest treatise of the *Hippocratic Corpus*, does not contain any reference to orality, save in its introductory paragraph on the causes of female diseases. The author of this paragraph addresses his audience in the first person singular and claims that he is teaching (ἄρξομαι δὲ διδάσκων ἀπὸ τοῦ ὕγροῦ κατὰ φύσιν; I will start by teaching the healthy moisture).⁶ However, it should be noted that this preamble to *Nature of Women* might have been added to the treatise at a later date, and it should therefore not be used as a proof that this text was originally delivered as an oral lecture.⁷

Even if we accept that parts of the gynaecological treatises were originally delivered orally, I would argue that the recipes included in these treatises were not part of the original lectures.⁸ When references are made to medications in the gynaecologies, the verb γράφω and its compounds are used. Even more, γράφω and its compounds only appear in relation with therapeutic indications (whether dietetic or pharmacological), and this is the case in all of Grensemann's layers.⁹

⁴ See Lonie (1981) 51. Lonie argues that the absence of therapy might indicate that these lectures were given to a non-professional audience. This argument has been criticised by Kollesch (1992): 341-342.

⁵ Hipp. *Mul.* 1.44 (layer A): εἴρηται (8.102.5 L.); *Mul.* 2.133 (layer B): εἴρηται (8.292.17 L.); κατὰ τὸν ἔμπροσθεν λόγον (8.302.2-3 L.). It should be noted that both these chapters include references to therapy.

⁶ Hipp. *Nat. Mul.* 1 (70,13-14 Trapp; 7.312.12-13 L.).

⁷ See Langholf (2004) 231.

⁸ These recipes are either embedded in a chapter on a particular disease or ailment; or listed in one of the catalogue of recipes, generally found at the end of the treatises.

⁹ Layer A: γέγραπται: Hipp. *Nat. Mul.* 34 (102,10 Trapp; 7.376.10 L.); 37 (104,15 Trapp; 7.380.15 L.); 41 (107,6 Trapp; but εἴρηται at 7.386.6 L.); 44 (108,18 Trapp; 7.388.18 L.); 45 (109,12 Trapp; 7.390.12 L.); 46 (10,22 Trapp; 7.390.22 L.); 107 (7.422.14 L.); *Mul.* 2.149 (8.324.20 L.); 2.154 (8.330.10 L.); 2.168 (8.348.5 L.); γράψω: *Mul.* 1.54 (8.112.19 L.).

Layer B: γεγράφεται: Hipp. *Mul.* 1.66 (8.140.7 L.); γράψω: *Mul.* 2.110 (8.236.6 and 238.2 L.); 2.115 (8.248.15 and 248.22); γέγραπται: *Mul.* 2.133 (8.296.13 L.); τῶν προγεγραμμένων: *Mul.* 2.133 (8.298.10 L.); τὰ προγεγραμμένα: *Mul.* 2.133 (8.300.2 L.).

Layer C: γεγράφεται: Hipp. *Mul.* 1.24 (8.64.11 L.); γέγραπται: *Mul.* 1.34 (8.80.15 L.). Undetermined layer: γράψω: *Mul.* 1.46 (8.104.20 L.); 2.177 (8.360.11 L.).

Usener (1990) is a study devoted to the uses of γράφω in the *Hippocratic Corpus*, but it does not deal with the gynaecological treatises.

Recipes were probably added whilst authors were revising their lectures for 'publication'.¹⁰

References to therapies in the past tense ('as I have written...') refer to therapies described in chapters on individual diseases. For instance, in a chapter on the inflammation of the womb at *Diseases of Women* 2.154, it is recommended to follow the same diet as written in the case of the displacement of the womb to the side: καὶ τὴν λινόζωστιν ἐσθιέτω, καὶ τὸ γάλα μεταπινέτω, ὡς ἐπὶ τοῦ πλευροῦ γέγραπται (and let her eat mercury and drink milk afterwards, as written <in the chapter on the displacement> to the womb).¹¹ Such recommendations are indeed found at *Diseases of Women* 2.131, a chapter on the displacement of the womb to the side.¹²

On the other hand, references in the future ('as I will write...') refer to the catalogues of recipes located at the end of the treatises. For instance, at *Diseases of Women* 2.110 (a chapter on the white flux) the compiler recommends treating a flux with a remedy which he will expose later: πρῶτ' μὲν διδόναι πρὸς τοὺς ῥόους φάρμακον πίνειν, ὃν ἂν ἐγὼ γράψω (give to drink, in the morning, a remedy against fluxes, as I will write).¹³ A collection of remedies against fluxes is found at *Diseases of Women* 2.192.¹⁴

Hippocratic compilers of gynaecological treatises refer to their descriptions of therapies and to their catalogues of recipes as written material to be consulted by their readers; these compilers do not utter recipes, they write them. Should we conclude that pharmacological knowledge was not transmitted orally among medical communities before they started using writing, as Lonie did?¹⁵ Not necessarily, but it is important to note that the oral transmission of pharmacological knowledge must have differed from our written recipes in several respects.

¹⁰ See Thomas (2003) on 'publications' of oral lectures.

¹¹ Hipp. *Mul.* 2.154 (8.330.9-10 L.).

¹² 8.278.12-280.3 L.

¹³ Hipp. *Mul.* 2.110 (8.236.5-6 L.).

¹⁴ 8.370.15-374.11 L. In the nosological treatise *Affections*, references to the now-lost *Pharmakitis* are always in the past tense. For instance, in a chapter on pains occurring during the summer, reference is made to the *Pharmakitis* in the following manner: διδόναι δὲ τοῖσι τὰ τοιαῦτα ἀλγήματα ἀλγέουσι· καὶ τῶν φαρμάκων ἃ γέγραπται τῆς ὀδύνης παύοντα ἐν τῇ Φαρμακίτιδι. *Aff.* 15 (28,3-5 Potter; 6.224.6-8 L.). Translation: 'Give to those suffering this kind of pains also, among the remedies prescribed in the *Pharmakitis*, those which stop the pain.'

¹⁵ Lonie (1983) 154 suggests that 'before the application of literacy to medicine internal medicine hardly existed in Greece.'

The social anthropologist Jack Goody, in his *Domestication of the Savage Mind* (1977), has questioned the very existence of ‘recipes’ in oral traditions. For Goody, formulae such as equations or recipes are highly abstract and decontextualized forms that are clearly the product of ‘graphic reductionism’. For sure, oral societies also follow relatively standard procedures when cooking, preparing remedies, and practicing magic. However, when talking about peasant cooking, Goody argues that knowledge of cooking transmitted orally, in a face-to-face context, tends to differ from written recipes in three respects:

Firstly, it relies less on precise quantities, which tend to be specified exactly in the written recipe. Secondly, it tends to be less tied to specific ingredients; one can substitute... Thirdly, there is more flexibility with regard to procedure.¹⁶

Therefore, according to Goody, in an oral context, instead of using the word ‘recipe’, it would be more correct to talk about ‘*recettes de base*’ (base recipes),¹⁷ which do not include prescriptive indications regarding quantities, ingredients and procedure. The ‘*recette de base*’ is a starting point on which a cook can improvise, using the ingredients at his/her disposal.¹⁸ Goody’s conclusions about cooking could well be extended to medicine and magic in oral traditions. One could imagine magic and medicinal *recettes de base* on which one could improvise, although the degree of improvisation might have been lesser than in the case of cooking, especially when poisonous drugs were involved.¹⁹ By contrast, written recipes are fixed and formalised. Let us examine a few examples of the written recipes, listed in one of the catalogues of recipes of *Nature of Women*:

Λοχεῖα καθῆραι· τῆς ἀκτῆς τὰ φύλλα ἐν ὕδατι ἐψήσας, ἐπιχέας ἐλαίου, **δοῦναι πειῖν**· ἐσθιέτω δὲ καὶ κράμβας ἐφθὰς καὶ πράσα.
Καθαρτήριον ὑστερέων· τοῦ ῥοῦ τὰ φύλλα καὶ ἐρύσιμον λεῖα ποιήσας ἐν οἴνῳ, ἄλφριτα ἐπιβάλλων, **δίδου πειῖν**.

¹⁶ Goody (1977) 141.

¹⁷ Goody (1977) 140.

¹⁸ Goody argues that the number of such ‘*recettes de base*’ in oral societies is limited by two factors: the number of ingredients readily available, and the capacity of oral memory. It should be pointed out, however, that one should not make assumptions about the capacity of oral memory. See Lonie (1977) 257-258, note 73 for a warning not to underestimate the capacity of oral memory.

¹⁹ It should, however, be noted that there are relatively few references to poisonous drugs in the *Hippocratic Corpus*.

Ἔτερον· μίσυος ὅσον δύο ὀβολοὺς τρίψας ἐν οἴνῳ, φυρήσας προσθεῖναι.

Ἔτερον· λίνου καρπὸν τρίψας ἐν οἴνῳ φυρήσας προθεῖναι.

Ἔτερον· τριφύλλου τὸν καρπὸν ἐν οἴνῳ πιεῖν δοῦναι.

Purges the afterbirth: boil leaves of the elder-tree in water, add oil; give to drink. Let her eat cooked cabbages and leaks.

Purgative of the womb: leaves of sumach and hedge mustard, crush well in wine, add barley-meal; give to drink.

Another: crush two obols of copper ore (*misy*) in wine, knead; apply.

Another: crush linseed in wine, knead; apply.

Another: seed of clover in wine; give to drink.

Hipp. *Nat. Mul.* 32 (91,12-17 Trapp; 7.354.12-17 L.).

These recipes are formalised: they start with the enumeration of the ingredients, and end with the verb indicating how the drug should be administered.²⁰ These recipes are short formulae; they leave out a lot of information that would have been mentioned and/or discussed in the context of a face-to-face transmission. For instance, none of the recipes in our example mention the instruments needed to prepare the medicines. Instruments such as the mortar (ὄλμος, ἕγδη, θυεῖη),²¹ the sieve (κρησέρη), the strainer (ήθμός) and the pan (χύτρη and cognate words)²² are cited only on rare occasions in the Hippocratic recipes.²³ These instruments were common kitchen utensils with which most people in Antiquity would have been familiar, and it was therefore not necessary to specify their use in the written recipes.²⁴ Instruments were only mentioned in the case of more complex procedures, such as the fumigation.²⁵

In addition, quantities are specified only in one of our recipes (μίσυος ὅσον δύο ὀβολούς). Quantities are often left to the appreciation of the reader in the Hippocratic recipes.²⁶ The readers would determine

²⁰ The 'administration verb' is underlined twice in the examples above.

²¹ The pestle is never mentioned in the *Hippocratic Corpus*. On mortars and pestles in Antiquity, see Amouretti (1986) 135-137; Moritz (1958) 22-28; Sparkes (1962) 125-126.

²² On vessels in the *Hippocratic Corpus*, see Villard and Blondé (1991); (1992); Villard (1992).

²³ See Villard (1992) 77-78.

²⁴ On kitchen utensils in Antiquity, see Dalby (2003) 100-102 (s.v. cooking utensils).

²⁵ See for instance the description of fumigation at Hipp. *Mul.* 2.133 (8.284.9-286.12 L.). Laurence Villard (1992) 78 suggested that these long descriptions might indicate a lack of familiarity on the part of the readers with the techniques of fumigation and fomentation.

²⁶ On the problem of quantities in the *Hippocratic Corpus*, see Brătescu (1983); Dean-Jones (2003) 111; Gourevitch (1996); Grimaudo (1998) 68-74; Lloyd (1987) 247-257.

the quantities of each ingredient, taking into consideration the condition of the patient, as in the following prescription, listed in a catalogue of recipes against a red flux:

Ἡ κυπαρίσσου καρπὸν ὅσον τρία ἢ τέσσαρα, καὶ μύρτα μέλανα καὶ ὁμοῦ καὶ αὐτὰ καθ' ἑωυτά, πρὸς ἰσχὺν τοῦ σώματος ὀρέων τῆς γυναικός, ξὺν οἴνῳ δὲ ἢ πόσις γενέσθω.²⁷

Three or four seeds of cypress, and black myrtle, together or separately, taking into consideration the strength of the woman's body; let it be drunk with wine. Hipp. *Mul.* 2.192 (8.372.7-9 L.).

In this respect, the Hippocratic recipes are similar to oral *recettes de base*; they are not prescriptive about quantities. However, one may assume that the question of the quantities would have been addressed, and discussed, in the context of an apprenticeship based on the oral word.

Other elements 'left out' of the written Hippocratic recipes include how long it takes to prepare the drug, how long it has to stand, how many times it has to be stirred, etc. In a word, the recipes leave out more element than they expose; it seems that we are faced with the bare bones of the recipes, a short *aide-mémoire*: the missing elements had to be supplied by the reader. The technical knowledge necessary to fill in the gaps in the recipes could only be taught through practice. As Pamela Long argued, 'Written or spoken instructions can introduce the subject but cannot actually transmit it. Only through learning the technique itself through practice can one truly know it.'²⁸ Practices cannot be translated into texts: our recipes are not the exact reflection of the oral transmission of pharmacological knowledge.

I have argued that our written recipes cannot be considered as the exact reflection of an oral teaching. I will now address my second question: whether the written recipes could have served as a basis for learning. In addition I will ask who read these recipes.

It should be noted that the Hippocratic gynaecological treatises, and the catalogues of recipes they contain, are not particularly user-friendly.²⁹ Contrary to medieval and Renaissance collections of recipes, they do not contain any retrieval tool such as indices or table of

²⁷ On the importance of taking into account the patient's condition, see also *Mul.* 3.230 (8.442.27-444.4 L.).

²⁸ Long (1991) 860.

²⁹ To use the expression of Small (1997) 61 who has devoted an extended study to data-retrieval in Antiquity.

contents.³⁰ For sure, the recipes were grouped under headings (which could be rubricated), and these groups of recipes were usually organised: for instance, in the case of *Diseases of Women* 1, the recipes found at the end of the treatise (chapter 74 to 91) are organised in the same way as the nosological descriptions that are found in the main part of the treatise, that is, in a chronological order from conception to birth. However, these structures are rarely followed systematically, sections being inserted 'at the wrong place'; and in the case of a treatise such as *Nature of Women* it is almost impossible to discern any structure at all.³¹ Overall, a reader had to be familiar with a treatise in its entirety before being able to find a particular description of disease or recipe. In other words, it was necessary to read the whole treatise, or the whole recipe book, before being able to use it. Finding a particular passage or recipe must have been particularly difficult when medical treatises took the format of a scroll, a format which makes the action of browsing almost impossible. Indeed, it is impossible with a roll to 'flick through the pages'.³²

Considering all these difficulties, it is safe to assume that ancient catalogues of recipes could not be consulted rapidly for reference when difficult clinical situations arose.³³ The reading of a recipe book in Antiquity must have been closer to what we would call 'studying' than it was to what we call 'reading'.³⁴ Readers went slowly through the text, attempting to memorize as much as they could. In this sense, the Hippocratic gynaecological recipes can be considered as a teaching device.

An obvious audience for the Hippocratic collections of recipes (and the treatises in which they are embedded) would have been the *iatroi*, people who made a living from the practice of medicine.³⁵ These *iatroi* would have acquired through practice the knowledge necessary to fill in the gaps in the written recipes. On the other hand, it seems that the

³⁰ Indices were not invented before the end of the twelfth century and their absence should therefore not surprise us. On the history of indices, see Blair (2000); Rouse & Rouse (1982); Wellish (1978). The table of contents was invented in Late Antiquity, although it was rarely used: Pliny's *Natural History* and Aulus Gellius' *Attic Nights* are introduced by tables of contents. See Small (1997) 16-19.

³¹ Langholf (2004) 231 calls this treatise a 'chaotic database'.

³² See Marganne (2004) 25. One of the main advantages of the codex, by contrast with the scroll, is that it allows non-linear access to the material. See O'Donnell (1998) 54.

³³ See Dean-Jones (2003) 113.

³⁴ See Langholf (2004) 231, who suggests that *Nature of Women* was destined to be learnt by heart.

³⁵ See Lloyd (1983) 72.

novice in pharmacology would have gained nothing from reading the Hippocratic gynaecological recipes. From our point of view, it also appears that the non-physician would have gained very little from reading these recipes either. However, the boundary between the physician and the layman was rather fluid in the Greek world. A comment made by Plato in the *Phaedrus* indicates that people who could not claim for themselves the label *iatros* were interested in medical texts and in pharmacological knowledge:

Εἰπεῖν ἂν οἶμαι ὅτι μαίνεται ἄνθρωπος, καὶ ἐκ βιβλίου ποθὲν ἀκούσας ἢ περιτυχῶν φαρμακίοις ἰατρος οἶται γεγονέναι, οὐδὲν ἐπαΐων τῆς τέχνης.
They would say, I think, this man is mad because he had heard somewhere from a book or happened to fall upon some remedies, and he thinks he had become a physician, understanding nothing of the art. Pl. *Phdr.* 268c.³⁶

A generation later, Aristotle proffered the same opinion – one cannot learn the art of medicine from books.³⁷ One of Socrates' ironic comments reported by Xenophon implies, however, that some people attempted the impossible – to become a physician through reading the numerous medical books in circulation:

Τί δὲ δὴ βουλόμενος ἀγαθὸς γενέσθαι, ἔφη, ὦ Εὐθύδημε, συλλέγεις τὰ γράμματα; Ἐπεὶ δὲ διεσιώπησεν ὁ Εὐθύδημος σκοπῶν, ὃ τι ἀποκρίναιτο, πάλιν ὁ Σωκράτης· Ἄρα μὴ ἰατρός; ἔφη· πολλὰ γὰρ καὶ ἱατρῶν ἐστι συγγράμματα.

<Socrates:> 'Tell me, Euthydemus, what kind of benefit do you want to get by collecting these books (*grammata*)?' And as Euthydemus remained

³⁶ On this text, see Boudon (2004) 199-200. A similar thought is attributed to Diocles: see Diocles fr. 6 (van der Eijk): Διοκλῆς ὁ ἰατρός λέγοντος αὐτῷ τινος βιβλίου ἡγορακέναι ἱατρικὸν καὶ μὴ προσδεῖσθαι διδασκαλίας εἶπε· 'Τὰ βιβλία τῶν μεμαθηκότων ὑπομνήματά εἰσι, τῶν δὲ ἀμαθῶν μνήματα'. Translation: 'When someone told Diocles the physician that he had bought a medical book and that he no longer needed teaching, Diocles said: "Books are reminders for those who have learnt, but for the ignorant they are tombstones."' For commentary, see van der Eijk (2001) 11-12.

³⁷ Arist. *EN* 9.9 (1181b2-6). Οὐ γὰρ φαίνονται οὐδ' ἱατρικοὶ ἐκ τῶν συγγραμμάτων γίνεσθαι. Καίτοι πειρῶνται γε λέγειν οὐ μόνον τὰ θεραπεύματα, ἀλλὰ καὶ ὡς ἰαθεῖεν ἂν καὶ ὡς δεῖ θεραπεύειν ἐκάστους, διελόμενοι τὰς ἔξεις· ταῦτα δὲ τοῖς μὲν ἐμπείροις ὠφέλιμα εἶναι δοκεῖ, τοῖς δ' ἀνεπιστήμοσιν ἀχρεῖα. Translation: 'Indeed one does not appear to become skilled in the art of medicine through books (*synggrammatōn*). And yet they attempt to describe not only the cures, but also how they might cure and how it is necessary to treat each individual, distinguishing his condition. But while these things seem useful to men of experience, they are useless to the inexperienced.'

silent, considering what to answer, Socrates again said: 'Maybe <you want to become> a doctor? Indeed there are many medical treatises (*syngrammata*).'³⁸ X. *Mem.* 4.2.10.

Although a literate layman could probably not become an *iatros* by reading books, he could, as suggested by the preface of the Hippocratic treatise *Affections*, learn to help himself in diseases and to choose the best physician for his family members and slaves.³⁸ Some literate laymen might have possessed enough of the prerequisite knowledge to 'fill in the gaps' in some written recipes, such as the recipes of the lost *Pharmakitis* (mentioned in *Affections*). Whether these laymen took the time necessary to read the more 'specialised' gynaecological treatises is more doubtful, although not entirely impossible:³⁹ once a book was in circulation, its 'author' could not control its readership.⁴⁰

Literacy was not a *sine qua non* condition for 'reading' medical treatises including pharmacological material. Plato, in the *Phaedrus* passage quoted above uses the expression 'hearing from a book' (ἐκ βιβλίου ποθὲν ἀκούσας);⁴¹ this may simply indicate that the reader was

³⁸ Hipp. *Aff.* 1 (6,1-7 and 8,1-8 Potter; 6.210.1-6 and 16-21 L.). Ἄνδρα χρή, ὅστις ἐστὶ συνετός, λογισάμενον ὅτι τοῖσιν ἀνθρώποισι πλείστου ἄξιόν ἐστιν ἢ ὑγίειν, ἐπίστασθαι ἀπὸ τῆς ἐωυτοῦ γνώμης ἐν τῇσι νόσοισιν ὠφελέεσθαι· ἐπίστασθαι δὲ τὰ ὑπὸ τῶν ἱητρῶν καὶ λεγόμενα καὶ προσφερόμενα πρὸς τὸ σῶμα ἑαυτοῦ καὶ διαγινώσκειν· ἐπίστασθαι δὲ τούτων ἕκαστα ἐς ὅσον εἰκὸς ἰδιώτην... Δεῖ δὲ πρὸς ταῦτα τὸν ἰδιώτην ἐπίστασθαι ὅσα εἰκὸς ἰδιώτη. Ὅσα δὲ τοὺς χειροτέχνας εἰκὸς ἐπίστασθαι καὶ προσφέρειν καὶ διαχειρίζειν, περὶ δὲ τούτων καὶ τῶν λεγομένων καὶ τῶν ποιουμένων οἷόν τ' εἶναι τὸν ἰδιώτην γνώμῃ τινὶ συμβάλλεσθαι. Ἦδη οὖν ὁπόθεν τούτων ἕκαστα δεῖ τὸν ἰδιώτην ἐπίστασθαι ἐγὼ φράσω. Translation: 'Any man who is wise must, whilst considering that health is most important for human beings, gain from his personal judgement the knowledge necessary to help himself in diseases, and to understand and judge what physicians say and what they prescribe for his body, and to understand each of these things to a degree reasonable for a layman... The layman must understand as much about these things as is reasonable for a layman; and what is fitting for the experts to understand, administer and manage, about these things, both what is said and what is done, the layman <must> be able to make a contribution with his own judgement. Thus now, from the point whence the layman must understand each of these things, I shall tell them.'

It should be noted that although the compiler of *Affections* claims that he is writing for an audience of laymen, the technicality of some chapters seem to indicate that this treatise was addressed to physicians.

³⁹ Hanson (1992) 235 suggests that the gynaecological treatises might have been read by heads of families.

⁴⁰ See Kenney (1982) 11.

⁴¹ For the interpretation of this text, see Hendrickson (1929) 188-189; Schenkeveld (1992) 141; de Vries (1969) 228.

reading the text aloud for himself, but it could also suggest that medical texts – or texts containing medical information – were read aloud to groups of people including non-*iatroi*.

Now, one could imagine that the person performing the reading could stop at times to supplement information, for instance to fill the gaps left in the recipes or to give some information on the ingredients of the recipes.

If this possibility is accepted, several questions, however, remain unanswered: who organised and ‘advertised’ such reading reunions, where did they take place, were there readings for ‘students of medicine’ only, and others to which ‘anyone’ could assist? In particular, one may wonder whether midwives benefited from readings of the gynaecological treatises. Several scholars, indeed, have argued that midwives either read for themselves or were taught the content of these treatises.⁴² Nancy Demand even interpreted a sentence of *Diseases of Women* 1.34 (Οὐ γὰρ ὁ στυφεῖν, οἷα οἱ ἰητροὶ ποιεῖουσιν; Do not use astringents as doctors do.) as direct advice from the author to the midwives not to act as male doctors.⁴³ Helen King, however, pointed out that passages where doctors are criticised for their actions are not rare in the Hippocratic treatises in general, and in the gynaecological treatises in particular. The passage at *Diseases of Women* 1.34 should be read as a sign of the competitive nature of Hippocratic medicine rather than as unquestionable evidence for an audience of midwives.⁴⁴ I do not think the Hippocratic gynaecological treatises and their catalogues of recipes were originally designed as instruction manuals for midwives, when they were first written down in the fifth century BC. On the other hand, there is no strong argument against the suggestion that women were sometimes present at the reading of medical works, or that they sometimes read these works for themselves. The female doctor Phanistrate must have been a wealthy woman to afford the beautiful tombstone that has been preserved for us;

⁴² See Drabkin (1944) 349; Demand (1994) 66-68; (1995) 287; Kudlien (1970) 8; Stannard (1961) 518. Harris (1989) 106-107 argued that midwives were illiterate; Demand (1994) 67, on the other hand, argued that midwives were craftswomen, and since it is among craftspeople that the highest rates of literacy have to be found in Antiquity, there is no *a priori* reason to assume that midwives were illiterate.

⁴³ Hipp. *Mul.* 1.34 (8.80.20-21 L.). See Demand (1994) 66; (1995) 287.

⁴⁴ King (1998) 178. On criticism of doctors in the gynaecological treatises, see also Lloyd (1983) 80.

to suggest that she could have been literate is by no means extravagant.⁴⁵

In conclusion, the written recipes of the Hippocratic gynaecological treatises are short '*aide-mémoire*'; they do not include all the information necessary for the preparation of drugs. Prerequisite knowledge in the art of pharmacology and familiarity with the practice of drug-preparation were necessary to approach these recipes, and to be able to fill in their gaps. It would be wrong, however, to assume that the *iatroi* were the only people able to read the recipes and learn from them. The compilers of the gynaecological treatises do not specify the audience for whom they were writing. This might have been a deliberate decision. These compilers probably composed their treatises with an audience of *iatroi* in mind, but they knew that other people might have shown interest in their treatises. In particular, these authors did not wish to exclude from their possible audiences literate laymen, such as the people who frequented the Sophists.

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⁴⁵ The stele of Phanostrate (IG II².6873), dated to the second half of the fourth century BC, (Athens) reads as follows: Μαῖα καὶ ἱατρὸς Φανοστράτη ἐνθάδε κεῖται [ο]ὔθενι λυπη-ρ>ά, πᾶσιν δὲ θανοῦσα ποθεινὴ. Translation: 'Phanostrate, midwife (*maia*) and physician (*iatros*), lies here at rest. She caused pain to none, and her death was lamented by all.'

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Analogical Method, Experiment and Didacticism in the Hippocratic Treatises *Generation / Nature of the Child / Diseases 4*

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Summary

This essay suggests three different levels at which the text may be analysed. In it, the notion of analogy is used in a strictly technical sense, to refer to the means of parallelism between a known phenomenon and another that must be explained, with the consequent possibility of inferring the latter from the former. The first level of analysis consists in the examination of some important comparisons, which the author treats as verification of the applicability of the analogical method. The second level rests in considering the great attention that is paid to empirical observation from a medical point of view, which produces attempts at experimental research. Finally, there is a didactic aim, since the author presents his observations for those who wish to know the subject and accept the evidence, availing himself of a sound organizational structure (continually referring to what he has already said or what he will later explain) and numerous rhetorical devices.

Despite the tripartite title, these treatises were most likely written by the same author, as Littré first recognized, adopting in his edition of 1851 the continuous numeration of chapters, that was subsequently followed by Joly in his 1970 edition;¹ this editorial choice was accepted also by Lonie, who dedicated very important studies to the work.² In 1998 C.W. Müller took up the question again, hypothesizing that a younger author, the author of *Diseases 4*, appropriated *Generation/Nature of the Child*, the writing of a teacher, of the same school, by inserting the

¹ Citations in Greek will be taken from this edition; translations of the treatises will be taken from Lonie (1981) will be used. It is also worth noting the edition of *Nature of the Child* by Giorgianni (2006) with German and Italian translation.

² Lonie (1969; 1977; 1981) supports the idea that *Diseases 4* is an independent work, but of the same author of *Generation/Nature of the Child*; however his comment (1981) refers to the continuous numeration.

cross reference in the new text by means of some interpolations.³ Nonetheless, the work's methodological and scientific coherence is not touched upon in the previous discussion, since in reading these writings one immediately notes that the element which characterizes and unifies them is precisely the same method of research, built on empirical observation and on the elaboration of data, based on the analogical method; finally, the entire work is organized into one solid narrative frame, intended to support an obvious didactic purpose characterized by the search for clarity and precision.⁴

The subject of the two first treatises is the exposition of the theories of conception and of the development of the embryo in its various stages until delivery. It is taken for granted that there is a perfect parallelism between the development of the embryo and that of plants; it is explicitly asserted in chapter 27.1 (77,5 f. Joly; 7.528 L.) that the φύσις is παραπλησίη.⁵ In *Diseases* 4, moreover, the doctrine of the four humours and their 'sources' is discussed (chapter 33), although it had

³ Müller (1998) 212-213; the interpolations would be in chapters 3 and 11 (cf. 206-211). Previously a similar opinion had been supported by Kahlenberg (1955) 252-256 and Plamböck (1964) 47-48, cited moreover by Müller (1998) 204 f., note 7. In favour of the author's and work's unity: Littré (1851), Regembogen (1930) 169-170 and Joly 1970 (*Notice*, 9-13), who thinks that the written text has been organized unitarily for publication (10-12). In both the medieval and manuscript tradition also *Generation/Nature of the Child* are separated, but Littré (1839) 373-374 and (1851) 462, recognized their literary unity and the scientific coherence; thinking that also *Diseases* 4, could be of the same author, the scholar published the three treatises with continuous numeration of chapters, in which he was followed by Joly. For a survey on the main opinions for and against authorial unity, cf. Giorgianni (2002) 626 note 4. According to the latter, it is probable that the author is the same (632 note 13), even if the treatises *Generation/Nature of the Child* and *Diseases* 4 would not have been conceived unitarily.

⁴ The author's preoccupation in this sense is manifested in several passages: *Nat. Puer.* 18 (63,1 ff. Joly; 7.504 L.) Μέλλω δὲ τὸ δεύτερον νῦν ὀνομάζειν σαφηνίης εἵνεκα 'And now I shall state the whole thing over again, for the sake of clarity'; yet 26.5 (76,23 f. Joly; 7.528 L.) οὐχ οἶόν τε ἦν μοι τὸν λόγον ἡμιτελέα καταλιπεῖν 'I could not leave my account incomplete'; other expressions such as ἀτρεκέστερον, 'more precisely', in *Morb.* 4.45.2 (99,19 Joly; 7.568 L.) and 49.1 (104,21 Joly; 7.578 L.); κάλλιον 'better' 33.2 (85,14 Joly; 7.544 L.); 38.3 (92, 11 Joly; 7.556 L.) etc., show the search for a continuous deepening of reasoning in progress.

⁵ This chapter concludes the famous botanical *excursus* (chapters 22-27) studied by Lonie (1969). Instituting a complex series of comparisons between the various phases of development of plants and of the embryo, in the end they are declared to be similar. Cf. on particular of φύσις, D. Manetti (1973) 426-444: 437.

already been pointed out in *Generation* chapter 3. The humours are: blood, phlegm, bile and water.⁶

Within the *Hippocratic Corpus* our author is perfectly recognizable because, to use the well-turned phrase of J. Jouanna, he is 'un grand spécialiste de l'analogie',⁷ and therefore this is the first aspect we have to examine.

Importance of the analogical method: in medicine and elsewhere

In general, the concept of analogy is based on the relation of similarity between two things, such that once the equality and the correspondence of some elements has been stated, the equality and the likeness of all of them can be deduced. Analogical reasoning presupposes that similar premises lead to similar conclusions. In strictly technical terms, analogy consists of the creation of a parallel between a known phenomenon and another that must be explained, with the consequent possibility of inferring the latter from the former.⁸ One clear explanation from Antiquity has reached us in the pseudo-Galenic *Medical Definitions*,⁹ where we read that ἀναλογισμός is reasoning which, coming ἀπὸ φαινομένου allows one to comprehend what is ἄδηλον. The cognitive method, that allows us to comprehend what is hidden, and thus not perceivable, through what is apparent and therefore perceivable, is clearly explained. The pores and sweat are given as example.¹⁰

This method of investigation, intended, as has been said, in the technical sense, was very important in Greek culture and we find the most ancient examples of its application in the pre-Socratics.¹¹ The idea is understood in the famous affirmation of Anaxagoras (ὄψις γὰρ τῶν ἀδήλων τὰ φαινόμενα)¹² or in the practical application made by

⁶ The bile is of one kind only and the fourth element is water, unlike *Nature of Man*.

⁷ Jouanna (1992) 447.

⁸ Cf. Lloyd (1992) 307 s. and 383; G. Manetti (1987) 69; Jouanna (1992) 445-452; Bühler (2005) in Leven, col. 41, s.v.

⁹ The work is datable to the first century AD; cf. Kollesh (1973) 61.

¹⁰ Ἀναλογισμός ἐστι λόγος ἀπὸ φαινομένου ὀρμώμενος καὶ ἀδήλου κατάληψιν ποιούμενος, οἷον εἰ ἰδρῶτές εἰσι, πόροι εἰσίν. οἱ μὲν γὰρ ἰδρῶτες πρᾶγμα φαινόμενόν ἐστι, τὸ δὲ πόρους εἶναι ἄδηλον ὑπάρχει (19.353-354 K.); cf. also Galen, *De sectis* (1.78 K.).

¹¹ Similes that have literary value of poetic metaphors occur already in the Homeric poems; on the archaic period in general cf. Kranz (1938).

¹² Anaxag. 59 DK B 21a ; cf. Diller (1932).

Empedocles explaining the mechanism of respiration by the alternating movement of blood inside the body and external air. He, in fact, makes the comparison with a child¹³ who plays with a 'clepsydra' and produces alternating movements of water and air. Another famous example is from Herodotus, when the historian declares that by conjecturing, τεκμαιρόμενος,¹⁴ he can reconstruct the course of the Nile, comparing it with the course of the Danube.

In empirical medicine the expression μετάβασις κατὰ τὸ ὅμοιον or ἡ τοῦ ὁμοίου μετάβασις refers to the concept of inference, procedure by analogy,¹⁵ the connection between one case and another, similar, one, is a heuristic instrument (ὄργανον εὐρετικόν), for finding remedies and, on this basis, the same remedy for one disease can be transferred to treat another, as Galen explains in *On Sects for Beginners* (1.68 K.). It is thus an example of analogical experience.

In fact, the analogical method can also be very productive in other contexts, e.g. in Epicurean philosophy, which considers inference by similarity, σημείωσις or μετάβασις, as the only valid method of research,¹⁶ as the *Methods of Inference* of Philodemus (mid-first century BC) testifies;¹⁷ the criterion is not surprising, because

¹³ Emp. 31 DK B 100: as when a child (a little girl) ὥσπερ ὅταν παῖς (v. 8) ὥς ... (v. 16). Cf. an analysis already in Regenbogen (1930) 160. The object in question is not in fact a clepsydra for measuring time, but a vase with a tight neck and a flat bottom supplied with holes, which was used for pouring liquids (*hydrarpax*). Cf. the comment in Lami (1991) 402 s.

¹⁴ Hdt. 2.33: 'conjecturing τεκμαιρόμενος from the known to unknown', τὰ ἐμφανέα is opposed to τὰ μὴ γνωσκόμενα; Herodotus, in order to give an idea of the Nile's course, is hypothesizing some symmetry between the latter and the Danube, based on the known parts. Actually he ignored the location of the Danube sources, but his reasoning respects the rules of analogy, cf. Corcella (1984) 59. The verb τεκμαίρεσθαι, 'to conjecture' (already in Alcmaeon of Croton, 24 DK B 1) which according to the contexts has also a more technical sense 'to infer', brings us to the issue of the inferential method which is widely used in Hippocratic medicine, and which sometimes combines with the method of analogy. Cf. Fausti (2002 and 2005) and relative bibliographical indications.

¹⁵ See in general the famous study of Deichgräber (1930) and Guardasole (2005) in Leven, coll. 254-255, s.v.

¹⁶ See e.g. col. 11,19 e 23; col. 30,35; col. 32,9; col. 33,23 where these terms occur; cf. the edition of Ph.H. and E. De Lacy (1978) according to which the citations are made.

¹⁷ The work reports the arguments on analogical inference made by three Epicurean masters, Zeno of Sidon, Bromios and Demetrius the Laconian, who carry on a controversy against their opponents, the Stoics, or perhaps the Academics. On the several proposals of identification cf. the review of G. Manetti (2002) 283 f.; cf. for indications in general, Dorandi (1990); Asmis (1990). The author's method of scientific survey follows the general theory of the Epicurean school, according to which the

connections on the theoretical level between the writings of Philodemus, in particular *Methods of Inference*, and the medical culture are not only evident,¹⁸ but moreover explained; in fact, chapter 60 (col. 38, 22-29) affirms: 'The things said by the members of our school who have spent the most time in this study, are such as we have now looked at. What some of the physicians¹⁹ have said and written about analogical inference (ἡ κατὰ τὸ ὅμοιον μετάβασις) we shall take note of at the end of our discussion ...'

The importance of analogy regarding the inferential process is declared with great methodological relief in fragment 3, 1-4 (which precedes the thirty eight columns of writing).²⁰ 'We ought to reason through inference according to similarity or through analogy; and as analogy is not (of one kind only), we should not depart from the analogy which alone is provided by the facts'.²¹

The analogical method is also used frequently in the field of botany. For example, it is used to give an idea about the shape of leaves, or about their colour or taste, since often one must speak about plants which come from far-way countries, and therefore have not been seen before. We find numerous examples in Theophrastus and Dioscorides: a plant that grows in Egypt (the rose lotus) is described in both texts; Theophrastus (*Enquiry into Plants* 4.8.7) says that the κυάμος αἰγύπτιος has a flower twice as large as that of a poppy, of a deep pink colour, and with leaves equal in size to a Thessalian hat. Dioscorides (2.106) notes that this plant is found above all in Egypt, but also in the marshes of Asia and Cilicia and has leaves as large as a petasus.²² This

phenomena can be used like signs σημεῖα of that cannot be observed (ἄδηλα), cf. Epicurus, *Ad Pyth.* 87.97.

¹⁸ Cf. already the observations of Ph.H. and E. De Lacy (1978) 129, note 114 and 165-182. For Philodemus the translation by Ph.H. and E. De Lacy is used.

¹⁹ Probably it is a matter of the empirical physicians, cf. Ph.H. and E. De Lacy (1978) 129.

²⁰ De Lacy (1978) 30 f.

²¹ The presence of ἀναλογία (col. 37, 14) and connected terms, the adjective ἀνάλογος and the verb ἀναλογέω (col. 37,15 e 29), is concentrated in chapters 57-58. The adjective is present also in col. 2,16; col. 24,27; col. 25,21.

²² Herodotus had already described this plant with flowers similar to a rose (2.92); the plant in *HP* is *Nelumbium speciosum*, according to identification proposed by Amigues (1989) 266. There are many further examples: in *Thphr. HP* 3.15.5 the box has a leaf like ὅμοιον that of the myrtle; the oleander has a leaf like the almond, but smaller (9.19.1). In Dioscorides the Illyrian iris bears leaves like the corn flag (1.1.1); the cassia (an oriental plant) has leaves like those of the pepper plant (1.13.1); the gum succory (χονδρίλη) has leaves, stalk, and flowers like those of chicory (2.133.1); the wind rose

type of indication allows one to imagine the large size and the shape of the leaves.

In this general point of view, the author of *Generation/Nature of the Child/Diseases* 4 certainly occupies an important place. Without making a complete list, we can identify, on the basis of the studies of Lonie, twenty nine examples²³ where unobservable processes are systematically compared with observable ones (e.g. the development of the foetus and that of plants) and certainty can be obtained from what is visible or at any rate verifiable: 'Now, that both male and female sperm exist in both partners is an inference which can be drawn from observation (ἐμφανέσι)',²⁴ chapter 7.1 (49,1-3 Joly; 7.458 L.). The process is very systematic and clarified by the formulas that relate the two elements in the analogical relationship, and is present in all three treatises. Let us analyse some examples of more articulated formulas, which express the mechanism of the analogical inference:

The author intends to explain that male sperm has two effects on female pleasure, which are immediately successive and apparently contrary. Pleasure and heat flare-up when sperm fall in the uterus and then cease: 'What happens is like this: if into boiling water you pour another quantity of water which is cold ... καὶ ἔχει οὕτω ὥσπερ εἴ τις... οὕτω καὶ ...' or 'if, for example, you pour wine on a flame ... in the same way it happens to the woman ... ὥσπερ εἴ τις... ὡσαύτως δὲ καὶ...' Hipp. *Genit.* 4.2 (47,6-15 Joly; 7.474-476 L.).

'It is just as though one were to mix together beeswax with suet, ὥσπερ εἴ τις... οὕτω δὲ ἔχει καὶ ...'; similarity used to explain the mixing of male and female sperm. Hipp. *Genit.* 6.2 (48,23-28 Joly; 7.478 L.).

(ἀργεμώνη) is like a wild poppy, but its leaf is similar to the leaf of poppy anemone (2.177.1).

²³ Lonie (1981) 78 note 118; this number is not precise (26 or 29), since sometimes the comparison could be considered as one comparison with two different aspects or two separate comparisons; cf. the chick in the egg in chapter 29 and chapter 30. Lonie treats separately every example.

²⁴ Both men and women, in fact, can sometimes have sons and sometimes have daughters, in relation to the partners.

Comparison of the development of the plant and the foetus²⁵ in relation to the space at disposal: it is similar to what happens if you place a cucumber that is growing in a narrow vessel, the plant will become equal ἴσος and ὁμοῖος to the inside of the vessel; but if one does this with another vessel a little bit larger than the natural size of the cucumber, it will fill up; it is the same with the child in the uterus, if he has plenty of space, he grows, otherwise remains smaller ὥσπερ εἴ τις... οὕτω δὲ ἔχει καὶ... Hipp. *Genit.* 9.3 (51,2-12 Joly; 7.482 L.).²⁶

The association with trees which, having insufficient space in the earth, grow up twisted, is used to explain malformations of the foetus, which, being in the same condition, grows twisted in the same manner (ὥσπερ εἴ τις... οὕτω δὲ ἔχει καὶ...). Hipp. *Genit.* 10.2 (51,22-25 Joly; 7.484 L.).

Explaining the formation of milk, makes the comparison with someone who smears a hide with large quantities of oil and, after giving the hide time to absorb the oil, squeezes it; the oil will ooze out again under pressure. In exactly the same way, the stomach, containing the fatty portions of food and drink, percolates the fat into the *omentum*²⁷ and the flesh, under the pressure of the womb... the same thing happens with the woman: ὥσπερ εἴ τις... ὁμοίως δὲ καὶ ... Hipp. *Nat. Puer.* 21.3 (67,19 f. Joly; 7.512 L.).

In this example it is said that if you were to compress tightly a skin containing water, and to make a breathing hole for the water with a needle point, it will be seen that no breath, but only water, passes through the perforation: the reason being that the water does not have a sufficiently wide passage to exhale air, and this corresponds to water in the earth during the winter ὥσπερ εἴ τις... ὥδε δὴ ἔχει καὶ... Hipp. *Nat. Puer.* 25.3 (73,17-23 Joly; 7.522 L.).

²⁵ Parallels with the plant world are scarcely present in the *Hippocratic Corpus*, but in *Generation/Nature of the Child/Diseases* 4 they are very often used and show another identifying element of the author's characteristics. Cf. on this subject Lloyd (1991) 349-350 and Repici (2000) 56-61. We can add another cases: *Nat. Hom.* 6 (180,8 f. Jouanna; 6.44 L.); *Vict.* chapter 68.6 (73,10 f. Joly; 7.598 L.); 68.9 (74,15-18 Joly; 7.600 L.) where a comparison is made twice between man and trees, or also *Oct.* 1.2 (164,10 f. Joly; 7.436 L.) on the membranes which contain the foetus. Cf. also Wenskus (1983) 397. In any case they are not true analogies.

²⁶ A very similar comparison is in Hipp. *Mul.* 1.33 (8.78 L.): in a troublesome delivery the child is compared with a large olive blocked in a cruet (λίγκυθος) with a narrow mouth.

²⁷ Net, containing the intestines.

In order to explain the separation of the humours inside the body as the effect of inclement weather, the author makes an apparently unsuitable comparison, because he describes the preparation of the typical cheese of the Scythians, called ‘hippake’; although exotic,²⁸ this mare’s-milk cheese was in a certain sense famous, through Herodotus (4.2) and *Aer.* 18.4 (232,11 Jouanna; 2.68 L.). The argumentative scheme is always the same: ‘This condition is similar to what the Scythians do... ὥσπερ... οὕτω δὲ καὶ... it is the same for man.’ Hipp. *Morb.* 4.51.2-3 (108,8 f. Joly; 7.584-586 L.).

A double analogy is instituted in order to explain the formation of renal stones, which derive from impure milk: a) just as if in a receptacle one shakes impure water, then lets it sit for a while, a sediment will form, the same happens in the bladder with impure urine; b) this sediment becomes solid and stone-like, in just the same way iron is formed when stones and earth are heated together (ὥσπερ... οὕτω καὶ...). Hipp. *Morb.* 55.3 and 4 (117,18 f. and 118,1-15 Joly; 7.600 and 602 L.).

Apart from the example of the Scythian cheese, it is clear that for the author the opportunity to observe is a very important element. The frequent use of terms such as ἐμφανής, ἀφανής, δῆλος²⁹ etc., allows comparisons to be made with objects and situations which can be seen normally and thus facilitating the understanding and uptake of the author’s theories will be easier. In *Diseases* 4.55.4 (118,9-10 Joly; 7.602 L.), when speaking about the dross that occurs during iron working, it is said that the phenomenon is very clear, ὅψι ὀρᾶται, literally ‘is seen with the sight’.

²⁸ Jouanna (1992) 450.

²⁹ The most significant examples: ἐμφανής Hipp. *Morb.* 4.6.2 (48,26 Joly; 7.478 L.); 4.7.1 (49,3 Joly; 7.478 L.); 4.13.4 (56,8 Joly; 7.490 L.); 4.29.1 (77,15 Joly; 7. 530 L.); 4.30.8 (81,7 and 13 Joly; 7.536 L.); 4.36.1 (89,8 Joly; 7.550 L.); ἀφανής 4.55.6 (119.4 Joly; 7.604 L.); δῆλος 4.12.3 (53,21 Joly; 7.486 L.); 4.17.2 (59,24 Joly; 7.498 L.); διάδηλος 4.6.2 (48,25 Joly; 7.478 L.); ἄδηλος 4.22.3 (69.14 Joly; 7.516 L.); the adverb δηλόντι 4.52.3 (112,4 Joly; 7.590 L.); the verbs δηλῶν, ἀποφαίνω, θεήομαι and various forms of the verb ‘to see’. Cf. *index verborum* in the edition by Joly.

The analogical method in other treatises of the Corpus Hippocraticum

A precise theoretical assertion, expressed in favour of the validity of this method, occurs in the important treatise *Ancient Medicine*, when the author (chapter 22), explaining the function of the organs according to their form, affirms that those which we can call ‘les organes piriformes’,³⁰ attract the most humours: ‘In order to understand it, it is necessary to refer to objects that can be seen from outside (ἐκ τῶν φανερώων)’ (chapter 22.3-149,15 f. Jouanna; 1.628 L.).³¹ Two examples follow. The first example is taken from everyday life: it is easier to draw in the liquids when a small reed is used, while doing this just with the open mouth is impossible; the second example comes from medical experience, when it is observed that cupping-glasses, applied to attract liquids from the body, have a broad base which become narrower at the top. Again in *Ancient Medicine*, there is a further comparison in chapter 11.1 (131, 11-18 Jouanna; 1.594 L.) where the stomach is compared to a boiling pot, as it is clear from the use of the verbs that explain digestion as boiling (ζέω) and fermentation (ζυμώω).

The treatise offering the most interesting points of comparison is, in fact, *Nature of Man*. Here, as well as in *Generation/Nature of the Child/Diseases* 4 there is an identical attitude of the physician, who regards as having been already demonstrated the theories proposed by him, which are also in a field that is difficult to verify: the fundamental composition of the body for *Nature of Man* or, as we saw above, the various phases of the development of the embryo for our author. Sometimes he goes so far as to say that he has proved the necessity of the attained conclusions, as happens in *Nature of Man*.³²

I for my part will prove that what I shall declare to be the constituents of a man ... are always alike the same and ... I will also offer the proofs (τεκμήρια) and state the necessary causes (ἀνάγκας ἀποφανῶ) why each constituent in the body grows and decreases. Hipp. *Nat. Hom.* chapter 2 (170,3 ff. Jouanna; 6.36 L.).

³⁰ For this definition see Jouanna (1992) 446.

³¹ In *Vict.* the author affirms that men do not understand how to observe the invisible through the visible (chapter 1.11) ἐκ τῶν φανερώων τὰ ἀφανέα σκέπτεσθαι (13,3-4 Joly; 6.486 L.) and in chapter 12 he wants to demonstrate that arts are visibly similar to the affections of man, both visible and invisible. The first example is the mantic art; then others follow, among them the art of medicine (chapter 15), the art of writing (chapter 23), and the trainer's art (chapter 24).

³² Cf. on *Nature of Man* also Lloyd (1991) 95.

After disproving those who claim that man is composed of one single element, Polybus³³ fails to make such convincing arguments when he has to prove his own theory,³⁴ but affirms that the doctrine of the humours is true because they are present in evacuations and in vomit. One might object that this shows only the presence of four humours in the body, not that they form the body.³⁵ In any case, the demonstration used by Polybus is an analogy with the plant world.

The first term of the comparison is established between the behaviour of plants which, after being planted or seeded, attract from the earth each humour, corresponding to its nature, and that of the medicine which, once introduced into the body, attracts the humour that most matches its nature³⁶ (there are two precise expressions which articulate the parallelism of the analogy (chapter 6): for just as things that ... such too is the action Ὡς γὰρ τὰ φυόμενά τε καὶ σπειρόμενα ... τοιοῦτον δέ τι καὶ τὰ φάρμακα ποιεῖ ... (180,8 ff. Jouanna; 6.44 L.). A resemblance to what is said in *Nature of Man* can be found in *Diseases* 4.34, where the discussion concerns the specific humour that every plant attracts from the earth, like the body attracts humours from food and drinks.³⁷ After a series of other comparisons, the conclusion follows in 4.34.5 (87,15 Joly; 7.548 L.): 'I, then, have confronted this necessary ἀνάγκη behaviour (of the plants) with what happens inside the body'.

Apart from the general choice of examples linked with the plant world, we should underline the similarity of the approach which makes certain the demonstration of what is affirmed; it occurs in *The Nature of the Child*, chapter 12, where the author explains the important role of *pneuma* in the formation of the embryo, because it is namely through the alternation of the breath, warm and cold, that the embryo is fed. Various comparisons with everyday life are made: burning wood,

³³ According to Aristotle (*HA* 512b-513a) the author of this work is Polybus, the son-in-law of Hippocrates.

³⁴ Polybus thinks that the body of man contains four humours: blood, phlegm, yellow bile and black bile; these make up the nature φύσις of human body (chapter 4).

³⁵ Cf. Lloyd (1991) 61.

³⁶ According to the principle that each thing is attracted to what is similar to it; on this subject and its relationships with philosophy cf. Ferrini (1996) 28 f.

³⁷ *Hipp. Morb.* 4.34.1 (86,1-7 Joly; 7.544 L.); the author specifies that roses, garlic and all other vegetables attract the humour which is the most similar to them; otherwise, plants would not be like the seeds from which they grow. The example of silphium that grows spontaneously only in Libya (34.3), is also famous.

burning green leaves, heated ailments and drinks. On this basis, a general law is stated: everything which is subjected to heat both emits *pneuma*, and, through the same passage, draws in the nutriment of cold air. On the premise of this adduced proof (ἀνάγκαι προσηγγμέναι, chapter 12.5 (54,15 Joly; 7.488 L.), the author goes on to describe the aspect of a seed when it is warm and forms a thin membrane around itself, in the same manner as bread when it is being baked. In the centre of the seed there is a passage for the entrance and exit of *pneuma* and something very subtle, where the amount of seed inside is very small. Otherwise the seed in its membrane is spherical. On what foundation is such a precise description made, of something that was certainly impossible to see at that time? In this case, the Hippocratic doctor refers to personal experience, but the problem introduces us to the more general theme of experiment.

Experiment

Through some ‘experiments’, that can be undertaken with help of simple objects, the author of *Generation/Nature of the Child/Diseases 4* invites the audience to verify personally³⁸ that his theories are correct. Naturally, we are not talking about experiments in the actual sense, i.e. the proof obtained from observations made during scientific exploration; in the Hippocratic framework the concept of proof is more a ‘testing instrument’, than a ‘heuristic device’, an heuristic means of discovering new data³⁹. The experiments, in fact, constitute proof by analogy; it is interesting to note that in some cases the analogies may be perceived even without undertaking specific research, but simply on the observation of burning wood, for example (chapter 12.3), but in other cases a precise procedure is prescribed, concluded with a real intervention of control, in order to strengthen the reliability of the proof.

Two simple examples. The first comes from chapter 6.2 (48,23-28 Joly; 7.478 L.): if one melts together different quantities of wax and suet, as long as the mass remains liquid, the prevailing character of the

³⁸ The expression is εὐρήσει/εὐρήσεις, ‘he/you will find’; chapter 17.4 (60,15 Joly; 7.598 L.); chapter 24.2 (72,6 Joly; 7.520 L.); in chapter 29 where there is an invitation to verify the process of growth of the embryo in the eggs, the expression appears in 29.1 (77,20 Joly; 7.530 L.) and 29. 3 twice (78,2 and 6 Joly; 7.530 L.).

³⁹ Cf. van der Eijk (1997a) 40 and 55, and von Staden (1975) 180 for the definition of experiment.

mixture is not apparent, but when the mixture solidifies, it becomes visible (ἐμφανές) that the suet was added as the major quantity. This serves to explain the theory according to which the predominance of one seed, strong or weak, determines the sex of infant about to be born. The second example is in chapter 21.3 (67,19 f. Joly; 7.512 L.), and it explains the formation of milk. The idea is that the pressure of the foetus in the stomach forces the milk to move towards the breast (21.4); the proof consists in smearing a hide with large quantities of oil; then, if the hide is squeezed, the oil will ooze out from the hide.⁴⁰

The author's wish to give indications for recognising elements, that are invisible to the human eye, becomes evident in two other cases, where the phenomena under examination may be studied only with the use of particular instruments, which are described. The first demonstration is the attempt to recreate in external reality the conditions that the author imagines to be inside the uterus⁴¹ with recourse to the specific equipment in *Nature of the Child*:

Suppose you were to tie a bladder⁴² onto the end of a pipe, and insert through the pipe earth, sand and fine filings of lead. Now pour in water, and blow through the pipe... Now allow the ingredients to dry out and examine them by cutting around the bladder: you will find that like ingredients have gone to join like ... with like going to join like. Hipp. *Nat. Puer.* 17.4 (60, 8-18 Joly; 7.598 L.).⁴³

The second demonstration, *Diseases* 4.39.1 (92,12 ff. Joly; 7.556 L.) explains, though unconsciously, the principle of communicating vessels: if one takes three recipients, posed on a plain surface and

⁴⁰ An analogous proof is described also in Hipp. *Mul.* 1.1 (8.12 L.). The author proposes to dip in water, for two days, clean wool and a thick cloth, of the same weight and, after the weighing, we can verify that the wool is heavier; in fact, being porous, it absorbs more water. Here a general physical principle, applied to a biological doctrine, fixes a difference between the flesh of men and that of women; according to the author, the female body is more porous. Cf. Lloyd (1992) 350-351.

⁴¹ Cf. Jouanna (1992) 451.

⁴² Lonie (1977) 127, identifies this object as a clyster, used in medical practice, e.g. for intestinal occlusions Hipp. *Aff.* 21 (38,7-8 Potter; 6.232 L.) or in gynaecology, *Mul.* 2.131 (8.278 L.), *Mul.* 3.222 (8.430 L.).

⁴³ Senn (1929) 242 f. interprets this proof as an attempt to demonstrate that the three substances change position in the bladder; they are put inside in this order: earth, sand and lead, but if they are stirred up from blowing, during the sedimentation, the lead, that has a greater specific weight, should go to the bottom, then the sand, then the earth. Senn concludes that the author does not verify this personally; actually his true interest is only to show the unification of similar substances.

joined together by pipes and then pours water into one of them, the water will fill them all; if one empties one of the vessels, the water will flow from the others too. The same holds true for the organs of the body, in particular the stomach, with nutrition and the humours. It is not the theoretical principle that he is looking for, then, but only the explanation of the functioning of the principle organs, 'the sources' (cf. chapter 33).

All this has an eminently didactic purpose, because there is an explicit desire to verify the result, which, in fact, serves to demonstrate something that the author is already convinced of.⁴⁴ Nevertheless, through the involvement given by the opportunity of verification, this information is able to be transmitted to his audience.⁴⁵

The clearest example of this method is chapter 29.2 of *Nature of the Child* (77,24 f.-78,1-4 Joly; 7.530 L.): if someone places twenty or more eggs to hatch under two or more fowls and then, starting from the second day right up until the day on which the egg is hatched,⁴⁶ takes one egg, and after breaking it, opens and examines (σκοπέων) it, 'he will find εὔρήσει that everything is as I have described κατὰ τὸν ἐμὸν λόγον'. If the idea of systematic verification over a series of days is new and seems quite 'scientific', the author does not however progress in learning, but uses this exposition of the process to confirm his (mistaken) convictions expressed in chapter 13.

This effective passage was very famous already in Antiquity⁴⁷ both on account of and the vivacity of the exposition. The author, being a doctor who is interested in gynaecology and embryology,⁴⁸ is consulted

⁴⁴ Another example is are fertility tests, based on the idea that between the genitals and the nostrils and the mouth there is a channel of connection; if the odours of the fumigations run along this channel, this is the sign of conception (Hipp. *Mul.* 3.230, 8.440 L.). These proofs are called πειρητήρια, experiences through which the doctor can verify if a woman will conceive or not (Hipp. *Mul.* 3. 214 (8.414 L.).

⁴⁵ Cf. Kollesh (1992) 340 f.

⁴⁶ This process lasts about twenty days, cf. chapter 30.8 (81,5 ff. Joly; 7.536 L.).

⁴⁷ Galen in *de foet. form.* cites extensively chapter 13 of *Nat. Puer.* (4.653-655 K.) and declares that the author, be it Hippocrates or Polybus, exposes the fact ἀκριβῶς τε ἅμα καὶ σαφῶς (4.653.16 K.); Galen identifies the membrane in question with the *chorion*.

⁴⁸ This is evident also from some affirmations where the author refers to his gynaecological treatises; in Hipp. *Genit.* 4.3 (47,28 f. Joly; 7.476 L.) he affirms that if women do not menstruate: "women's bodies become prone to sickness. I shall explain why this is so in my course on women's diseases" *Mul.* 1.2 (8.14 L.); in *Nat. Puer.* 15.6 (58,21 f. Joly; 7.496 L.) he says: '... they will be described in my course on women's diseases.' On the ground of these statements, together with an accurate textual analysis, Grensemann (1982) 9-37:10 hypothesizes that this author redacted also the stratum C of the gynaecological treatises.

by a singer (μουσοεργός) with regard to an abortion;⁴⁹ he advises the girl to jump energetically⁵⁰ and on the seventh jump the seed falls to the earth with a noise and the girl observes it in great surprise. The description is:

It was as though someone had removed the shell from a raw egg (όκοϊον ... οϊον εἴ τις) so that the fluid inside showed through the inner membrane ... In the middle of the membrane was a small projection: it looked like an umbilicus, and I considered that it was through this that the embryo first breathed in and out. ... Such then was the six day embryo that I saw ἐγὼ εἶδον. Hipp. Nat. Puer. 13.3-4 (55,19 f. and 56,1-7 Joly; 7.490 L.).⁵¹

The force of the personal experience ('I saw') confirms the theoretical description of the embryo, made in chapter 12.6. The comment of John of Alexandria in this respect is interesting since he finds this episode contradictory to the Hippocratic oath; among the several justifications⁵² that he gives, there is one that explains the episode as an attempt at research, completed by Hippocrates, to be able to recognise the phenomenon after having seen it (θεασάμενος).⁵³

In the brilliant little story, that used within a performance had to attract the attention, the use of the first person seems obvious, but it is certainly overbought, because strengthened by the presence of pronoun of the first person⁵⁴ and by verbs that indicate seeing and appearing. In

⁴⁹ On abortion in the ancient world for the sake of health or beauty of a woman, cf. Kapparis (2002) 79 and 113.

⁵⁰ It is the so-called Lacedaemonian jump, to which Aristophanes alludes, *Lys.* 82. It consisted of 'leaping with the heels to the buttocks for the sake of expulsion.' This Hippocratic doctor does not advise pessaries or medicines, like e.g. in *Nat. Mul.* 95 (7.412 L.) or Dioscorides, who suggests wine flavoured with hellebore as abortifacient (5.72.3). Cf. in general Riddle (1992) 9 and 74-82.

⁵¹ A similar episode, always referring to girls that prostitute themselves, is in *Carn.* 19, where the author gives a very precise affirmation declaring that the seven-day old embryo is already perfectly formed and he saw it many times (πολλά) examining abortive products: 'putting this meat in water and observing, you will find that there are all parts of the body', chapter 19.1 (200,25 f. Joly; 8.608-610 L.).

⁵² Hippocrates in this way did not destroy a child, but only the seed; another explanation is that sacrificing the seed, the life of the girl has been saved, otherwise she might kill herself. The courtesans in fact preferred death to the 'ugliness' of pregnancy.

⁵³ Dietz (1834 = 1966) 2, 216 = Duffy (1997) 144-146.

⁵⁴ In the *Hippocratic Corpus* there are 104 cases of ἐγώ (cf. *TLG*); the highest number of attestations, thirty, is in the *Pseudo-Hippocratic Letters*, however in *Generation/Nature of the Child/Diseases* 4 the use of pronouns of first person is very frequent. Eleven cases can be individuated, four of them, in chapter 13, are strengthened with the presence of αὐτός in the beginning and ἐμέ, μοι, ἐμῷ λόγῳ in the

this case seeing constitutes proof.⁵⁵ This evidently cannot be repeated, and therefore the author declares that he will soon expose another obvious observation (διάγνωσις) and this will be a proof (ιστόριον); he thus alludes to chapter 29 and to the experiment on hatching eggs.⁵⁶

The two cases (chapters 13 and 29) support each other through precisely parallel analogical reasoning:

- 1) the human six day old embryo is similar to an uncooked egg without the shell, a fact observed by the physician himself;
- 2) the various stages of the development inside the egg can be observable over time; it is possible then to infer that these same stages will be found in the human embryo.⁵⁷

Didactic aims and rhetorical devices in the master-audience relationship

The author's continuous 'conversation' with the public of listeners/readers reminds us of an epideictic-type text and therefore invites us to conduct a search of its characteristic features. The epideictic style used in performance is recognizable for the constant use of the first person, for the insistence on the certainty of the statements, for the assertion that the author is right and others are wrong, for the use of rhetorical questions and for the consciousness of having a public before him;⁵⁸ the expression 'anyone who wishes' (ὁ βουλόμενος) is used to indicate the possibility of access that the δῆμος has to various activities.

course of the narration, accompanied with the constant use of the verb in the first person; this is a good example of that 'rampant egotism' which is noted in some Hippocratic treatises and so it seems unlikely that they were conceived to the anonymous circulation, cf. Dean Jones (2003) 118 note 56; but see also Thomas (2003) 183.

⁵⁵ We can another example in *Art.* (4.78 L.), where the doctor says: 'I have never observed (εἶδον) either the upward or outward form of shoulder-joint...nor I have ever seen (ὄπωπα) anything that seemed to me a dislocation towards' (translation by Withington, 1928). The only type of dislocation of the articulation of shoulder that the author knows (οἶδα) is a dislocation towards an armpit. The seeing is a very important element for judging.

⁵⁶ The description of the development of the chick in the egg is in 30.7 (80,21 ff.-81,1 f. Joly; 7.536 L.).

⁵⁷ Cf. Lonie (1977) 125.

⁵⁸ Cf. Thomas (2003) 175, 180.

This expression, noted in the Platonic dialogues,⁵⁹ is present also in our treatises, which were probably transmitted into written form from a draft destined to be spoken aloud, even if it is difficult to say, given then various methods the Ancients used in drawing up a written text for this purpose, to what extent the final version was a simple repetition of what had really been said.⁶⁰ The habit of fixing medical doctrines in writing was asserted at the end of the fifth century B.C., when the direct relationship between master and pupil⁶¹ was in crisis and the writings addressed to the public served not only to attract patients, but also (and above all) disciples, becoming also an advertising vehicle to convince students to go to famous masters, in order to use their name in their subsequent career.⁶²

The author of *Generation/Nature of the Child/Diseases* 4 has a great deal in common with this style, except for his moderation regarding debates with previous doctors⁶³, and meets all these requirements; in fact he not only makes frequent use of the first person, but is careful to create a network of references through formulas of anticipation and recapitulation of what is said, what will be said and what has already been said, that we can easily verify.⁶⁴ Some examples: the author calls attention to what he is about to do: 'I shall return (ἀναβήσομαι ... ὀπίσω'; *Nature of the Child* chapter 11.1 (52,11 Joly; 7.484 L.); 18.8 (64, 6 Joly; 7.506 L.); 27.1 (76,25 Joly; 7.528 L.); 'I shall return to the remainder of my discourse (ἐλεύσομαι δὲ αὖτις ἐς τὸ ἐπιλείπες τοῦ λόγου; chapter 20.6-66,29 Joly; 7.510 L.). In the beginning of chapter 26 he announces: 'I shall make a summary ἀναλήψομαι (75,6 Joly; 7.526 L.). The final summarizing clauses serve to emphasize the contribution made by the author: 'This is said by me on this subject Καὶ ταῦτα μὲν ἐς τοῦτό μοι εἴρηται' (*Nature of the Child* chapter 13.4; 56,11 Joly; 7.492 L.).⁶⁵ The whole complex structure shows the effort

⁵⁹ Cf. Thomas (2003) 181.

⁶⁰ Cf. Thomas (2003) 170.

⁶¹ Cf. Dean Jones (2003) 99, who attributes this novelty also to the effect of the frequent polemics with charlatans.

⁶² Cf. Dean Jones (2003) 98 and 116-120.

⁶³ Only in chapter 47 he censures the mistakes of the previous ignorant physicians, οὐ γινώσκοντες 47.3 (103,11 Joly; 7.576 L.).

⁶⁴ Cf. Regenbogen (1930 =1961, 174-175) and Lonie (1981) 50.

⁶⁵ There are almost identical expressions e.g. in Hipp. *Genit.* 1.3 (45,10 Joly; 7.472 L.); 4.3 (47,29 Joly; 7.476 L.); *Nat. Puer.* 16.1 (59,8 Joly; 7.496 L.); 25.6 (75,5 Joly; 7.526 L.); *Morb.* 4.37.3 (91,8 Joly; 7.554 L.); 56.8 (122,3 Joly; 7.608 L.) etc.

he takes to make this difficult matter enjoyable both on the level of comprehension, and on the mnemonic level.

It is exactly from the didactic point of view that we must evaluate as possible evidence the double index of matters that we find in *Diseases* 4, the first one in chapter 32.2 (84, 11-18 Joly; 7.542 L.) and the second in chapter 53.3 (113,22-114,1-5 Joly; 7.594 L.), where it runs backwards. The fact that he enumerates them in reverse order compared to the initial exposition can be thought of as a technique of memorization for arguments.⁶⁶

What, therefore, is the relationship between this teacher and his audience? The teacher is trying to interact with the listeners/readers, inviting them to verify the truthfulness of his affirmations and, if on the one hand he is modestly reminding them that the human knowledge is limited, on the other hand he flatters his audience, emphasizing their willingness to learn, as we read in several passages. For instance in *Nature of the Child*, after describing the product of a six-day abortion, he declares:

And a little further on I intend to describe a second observation, which will give a clear insight into the subject. It will also serve as evidence for the truth of my whole argument παντὶ τῷ βουλομένῳ εἰδέναι, so far as is humanly possible ὡς εἰπεῖν ἄνθρωπον in such a matter. Hipp. *Nat. Puer.* 13.4 (56,5-10 Joly; 7.492 L.).

The reference is:

Now I come to the observation which I promised to describe a little earlier – one which will make the matter as clear as is humanly possible ἀνθρωπίνῃ γνώμῃ⁶⁷ to anyone who wishes to know παντὶ τῷ θέλοντι εἰδέναι that the seed is contained in a membrane... Hipp. *Nat. Puer.* 29.1 (77, 14-17; 7.530 L.).

In *Diseases* 4, after discussing four humours (blood, bile, phlegm and water) and how they grow from food and drinks, the author says:

⁶⁶ Cf. Roselli (2006) 264-265.

⁶⁷ This delimitation of the field of action of the human mind, is very interesting and is also in *Prorrhetic* 2; the author proposes to make his prognosis ἀνθρωπινωτέρως chapter 2 (220,19 Potter; 9.8 L.) and ἐνδοιαστῶς τε καὶ ἀνθρωπίνως chapter 3 (224, 8 f. Potter; 9.10 L.).

So much then for that subject. But I have also incidentally touched upon the way in which these humours become deficient – sufficiently at least to make the matter clear for an intelligent συνετός person.⁶⁸ But I shall make it more clear later on. Hipp. *Morb.* 4.38.3 (92, 8-11 Joly; 7.556 L.)⁶⁹

The author addresses all who are willing to pay attention ἐνθυμηθῆναι 24.2 (72,5 Joly; 7.520 L.) and τὸν νοῦν προσέσχον 30.8 (81,8 Joly; 7.536 L.). ‘Understanding’ i.e. required attention is expressed elsewhere by verb ἐννοεῖν as we see in 27.1 (77,4 Joly; 7.528 L.), when after discussing the fact that the health of the child in the uterus depends of the state of health of the mother (just as the health of plants depends on the humour drawn from the earth), he affirms: ‘But in fact, if you review (ἐννοεῖν) what I have said, you will find that from beginning to end the process of growth in plants and in humans is exactly the same’. The same concept is confirmed in 12.3 (53,17 Joly; 7.486 L.): it is possible to observe with attention (ἐννοῆσαι) burning wood and in 56.2 (120,3-5 Joly; 7.606 L.) where the author wants to say that the drink does not go into the lung: ‘You must give note (νοῆσαι) to what I am about to say, for I shall give the following proofs (ιστόρια) that drink does not go into the lung, but into the stomach’.

However, attention alone is not enough; the necessary interaction between the person explaining and the person who is learning is stated clearly:

Furthermore (if you accept the evidence which I am about to give ἢν βούληται τις τοῖσιν ιστορίοισιν, ὁκόσοισι μέλλω λέγειν, χρῆσθαι) you will find εὐρήσεις that the growth of the infant is from beginning to end exactly as I have described εἴρηκα it in my discourse. Hipp. *Nat. Puer.* 29.1 (77,20-23 Joly; 7.530 L.).

In conclusion, following the master’s teachings will certainly produce positive results: the goal of increasing knowledge will be reached.

⁶⁸ The same expression is in *Aff.* 1 (6,1-7 Potter; 6.208 L.). The addressee is an intelligent person συνετός, who on considering λογισάμενος that health is the most important thing for man, is able to understand what can occur in the diseases, what the doctor says and what he is ordering to him; he has to know this matter as far as is possible to a layman. Cf. van der Eijk (1997b).

⁶⁹ The promise will be fulfilled in chapter 41.1 (95,16 Joly; 7.562 L.): ‘I will explain better (ἀποφῆναι κάλλιον) how...’; then the author goes on with almost same words.

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IV. Galen and the Hippocratic tradition

Galen, Satire and the Compulsion to Instruct

Ralph M. Rosen

Summary

This chapter explores Galen's attitude toward instruction and teaching, and in particular the ways in which he conceptualized and articulated the didactic function of his writings. Galen's own rhetoric about why he wrote was often strident – his disparagement of contemporaries is famous, and his fondness for polemic is often regarded as a function of an eristic and arrogant personality. I suggest, however, that Galen's self-avowed role as a kind of public censor may derive as much from an amalgamation of rhetorical postures found in various literary and philosophical genres as it does from an inherently intemperate character. By examining various passages in Galen's protreptic and psychological works, I argue that his frequent stances of vituperative indignation and self-righteousness often resemble those found in satirical writings, from Cynic diatribe through Greek and Roman satirical poetry. Galen no doubt felt himself to be working in a serious tradition of Platonic and Stoic moralizing, but his particular form of didacticism was informed by various strategies assimilated from Greco-Roman serio-comic traditions.

Almost as famous as Galen's contributions to the history of medicine is the vivid and complex autobiographical voice he deployed in his writings. At times self-confident, brash and vituperative, at other times almost humble and folksy, Galen seems to have had a reasonably good idea of the impression he wanted to make on his readers. He frequently intimates that in a perfect world he would be content to live dutifully and unobtrusively, ministering quietly to the sick, and teaching others, privately or publicly, if asked. He often claims that he would be happy to write or dictate his thoughts for friends or pupils, but not necessarily with formal publication in mind. The world, however, is never perfect, and the Galen we come to know from his writings often displays quite a different character: despite his professed desire for a quiet medical career balancing scholarship and service, his own rhetoric is often at odds with this ideal, especially as he presents himself drawn into the fray, surrounded as he often claims to be, by the ignorance and pretense

of others and by what he regards as a ubiquitous debasement of rational thought. Such a state of affairs drives him to react, whether to set the record straight about his own misrepresented views, to counter prevailing dogmatism of the medical sects of the time, or to expose what he perceives to be rampant charlatanism and irrational thinking. It is a veritable compulsion, as he often represents it, to correct the misguided and enlighten the ignorant, and this becomes his most effective, certainly his most memorable, didactic mode.

Modern readers are often a little embarrassed by Galen's extreme rhetoric in such moments, and there has long been a tendency to assume that he lashes out so vehemently against the follies of the world because he actually was a hot-tempered, eristic person after all, notwithstanding his frequent endorsement of equanimity and self-control. Perhaps he was – we are obviously in no position to confirm or deny it with certainty – ¹ but I would like to suggest in what follows that it is a mistake to draw conclusions about Galen's personality solely on the basis of his polemic against his adversaries or his self-righteous pontificating about scientific and ethical matters. Galen's rhetoric in such contexts can certainly be strident, but, as we shall see, his self-avowed role as a kind of public *ensor* derives as much from an amalgamation of rhetorical postures familiar to him from any number of ancient literary and philosophical genres, as it does from an inherently intemperate character. There are several directions one might take with this proposal, but I will focus on one I find particularly striking, namely, the analogues between Greco-Roman satirical poetry and Galen's didactic posturing. Authors working in such genres commonly position themselves as men of superior knowledge, driven by the ignorance of the people around them to try to rectify a world that they regard as perennially corrupt or fast degenerating, especially when

¹ See Nutton's recent assessment of Galen's personality (2004, 228): 'Combative, opinionated, pedantic, longwinded, even unscrupulous, are all adjectives that can readily be applied to him, yet there are also times when he appears eirenic, open-minded, practical, succinct, and generous.' For us, Galen must remain mediated by his writings, as Nutton (227) also notes (and see also von Staden [1997], who describes well the eristic culture of the time and Galen's self-consciousness about addressing adversaries in public performance), so it is difficult to know how to account for the apparent paradoxes of his personality that emerge from the treatises. I suggest below, however, that at least in the formation of his famously eristic rhetoric, Galen drew on literary traditions that can be quite specifically identified. On Galen's self-conscious, but often fraught, relationship with contemporary audiences and readers see Asper (2005).

compared to a morally idealized past.² They assume an intensely didactic mission in their *writings*, but they represent themselves frequently as abject, or at least beleaguered and oppressed by their ignorant detractors. They invoke this state of affairs, in turn, to justify the intensity of their didactic stance (for who can blame them for their pugnacity if things are really as bad as they say?), and to win the sympathies of the audience, who are imagined to join him in deploring the ills of the world.

There is always a hint of comedy inherent in such satirical stances, and this comic element certainly has much to contribute to the work's didacticism. How often, after all, do we find ourselves smiling at Galen's over-the-top polemic, or applaud a particularly clever and amusing sarcastic turn of phrase? Galen's specific diagnosis of human misbehavior in his ethical works, moreover, bears a surprising resemblance to exactly the sort of diagnoses we find in many satirical genres, with their typical critiques of irrational behavior, overindulgence of the bodily pleasures, avarice, and a generalized lack of self-control. We need not turn Galen into a comedian or minimize the seriousness of his didactic motivations, and it is never entirely clear how conscious Galen was of the rhetorical debts to satire I am arguing that he had. But I am quite persuaded that the connections between his didactic rhetoric and the rhetoric of satire go far to explain not only certain idiosyncrasies of Galenic style, but also the nature of his relationships with other intellectuals and movements of the day.

We may begin with a starting point favored by many satirists themselves, that is, by posing the question of why write anything in the first place. Galen's motivations for writing were complex, as we might expect for someone of his talents and stature – in *On My Own Books* he divides his treatises into two basic categories: those he wrote as private memoranda, intended only for personal consultation, and those written

² Examples of this stance abound across the long sweep of Greco-Roman literature, from Hesiod's myth of the ages (*Op.* 109–201, told against the background of his brother Perses' moral compromises; on Hesiod as a 'satirical' poet in *Works and Days*, see Hunt [1981]) or Archilochus' posturing against his various targets (e.g., 172W, 177W, 185W), through many Aristophanic comedies (e.g., to cite just one play, *Clouds*, with its dramatization of an ancient 'culture war,' pitting old, stable, traditional values – 'good' – against new, morally bankrupt ones – 'bad'), up through Roman satire, which made nostalgia and self-righteousness practically a fetish (cf., e.g., Hor. *S.* 2.1 or Juv. 1, in which the speakers describe themselves as unable to refrain from their moralizing satire because of the corrupt state of the world around them). For more on this theme in general, see Rosen (2007) chapter 1.

for the benefit of others.³ The treatise is rich with detail about various sub-categories of writing within these basic groupings, but for our purposes, I note only that Galen's alleged motivation for writing in nearly all cases was didactic, and in the case of works intended for publication, what we might call 'reactionary.' By this I mean that he wrote these works because in some sense he felt that he *had* to. Certainly, *On My Own Books* itself was inspired by Galen's perception that he had been long enough the victim of, as we might put it today, intellectual property violations, and even as he recounts the history behind each of his works in the course of that treatise, the pervasive motif is one of *response* to a perceived need to set the record straight.⁴ The opening chapters of *On My Own Books* (Prol. – chapter 3 Boudon-Millot; 19.8-30 K.) offer considerable detail about Galen's various reasons for writing, and the different types of texts that resulted. Sometimes, for example, he wrote because he found people misrepresenting his views; sometimes he felt driven by the ignorance of those who, he felt, ought to know better; and in more benign contexts, he wrote simply for pedagogical, curricular purposes (e.g., his books for 'beginners', τοῖς εἰσαγομένοις βιβλία, Prol. 12 Boudon-Millot; 19.11 K.).

Such motivations for writing in themselves are hardly peculiar to Galen, but his rhetoric on this question is quite distinctive: for him, the world is continually divided into starkly delineated polarities, between those who know and those who do not. There are many types of people within these categories, some allowance for gradation, and certainly the assumption that people can be educated out of their ignorance if only they have the will and self-discipline. But by and large, the sense we get from Galen's writing is that he is fighting a lonely battle against a world populated by ignorant, often unjustifiably influential, people. One cannot even get through the first page of *On My Own Books*

³ On the different categories of writing that Galen himself described, see Hanson (1998) esp. 25-35.

⁴ Indeed, this is the genesis of *On My Own Books* itself: a friend of his, Bassus, had evidently advised him to write the treatise about his own books, and the anecdote with which he opens the work proves that it was good advice. Galen tells how he witnessed a dispute at a Roman bookshop between two men over the authorship of a work attributed to Galen. If the marketplace could not keep straight what was and was not authentic Galen, perhaps a treatise on the subject would; hence *On My Own Books*, written, as Galen implies, in order to right a perceived wrong. As the anecdote at the opening of *On My Own Books* indicates, Galen would have been aided in this mission by learned sympathizers, to whom he refers as *philoloi*, who would have the appropriate education and technical background to judge his works. See Hanson (1998), esp. 22-25.

without encountering this:

οἱ πολλοὶ δὲ τῶν νῦν ἱατρικὴν ἢ φιλοσοφίαν μετιόντων οὐδ' ἀναγνῶναι καλῶς δυνάμενοι φοιτῶσι παρὰ τοὺς διδάξοντας τὰ τε μέγιστα καὶ κάλλιστα τῶν ἐν ἀνθρώποις, θεωρημάτων, ἃ φιλοσοφία τε καὶ ἱατρικὴ διδάσκουσιν. ἤρκετο μὲν οὖν ἡ τοιαύτη ῥαδιουργία πρὸ πολλῶν ἐτῶν, ἡνίκ' ἔτι μειράκιον ἦν ἐγώ, οὐ μὴν τοσοῦτόν γε, εἰς ὅσον νῦν ἠϋξῆται, προεληλύθει τὸ κατ' ἐκείνον τὸν χρόνον.

Many of those who embark on a career in medicine or philosophy these days cannot even read properly, yet they frequent lectures on the greatest and most beautiful field of human endeavor, that is, the knowledge provided by philosophy and medicine. This kind of laziness existed many years ago too, when I was a young man, but it has not reached the extreme state it has now. Galen, *De libr. propr.* (Prol. 4 Boudon-Millot; 19.9 K.)⁵

There are bad eggs in every profession, of course, but even if Galen was right that many of his medical colleagues could not read properly, accusing them of laziness is an obviously sarcastic, presumptuous dig. It is funny, however; and it functions as a *captatio benevolentiae* early in the work, quietly flattering the reader by implying that *they*, at least, are *not* ignorant like the rest of the world. The tropes of this passage are vivid: people who seem wise are not, people who seem industrious are not, and the world appears to be degenerating inexorably and irretrievably right before our eyes.

This, then, is where Galen the teacher can make his mark, even if he often regards the effort as Sisyphean. What he says about the composition of his commentaries on Hippocrates is telling. In *On My Own Books* (chapter 9 Boudon-Millot; 19.33-34 K.) he mentions that originally these works were not intended for publication, but rather were his private notes (as a kind of personal training, as he puts it; γυμνάζων 9,1 Boudon-Millot; 19.33 K.). But when public ignorance about the topics he had been writing about privately became intolerable to him, he reacted by going public in subsequent works on Hippocrates:

μετὰ ταῦτα δέ τις ἀκούσας ἐξήγησιν ἀφορισμοῦ μοχθηρὰν ἐπαινοῦντος, ὅσα τοῦ λοιποῦ τισιν ἔδωκα, πρὸς κοινὴν ἔκδοσιν ἀποβλέπων, οὐκ ἰδίαν ἔξιν ἐκείνων μόνων τῶν λαβόντων, οὕτως συνέθηκα.

After that, I heard someone praising a false interpretation of one of the *Aphorisms*. From that point on, whenever I gave one of these works to

⁵ All translations of Galen in this chapter are taken from Singer (1997), with occasional minor modification.

anybody, it was composed with an eye to general publication, not just to the attainment of that individual. Galen, *De libr. propr.* (9,7 Boudon-Millot; 19.35 K.).

His treatise on Hippocrates' *Nature of Man* had a similar genesis, when he felt he had to respond to someone who had challenged the authenticity of that work. This is a pattern we see time and again in Galen: he is roused to a didactic mode in response to an ignorance that he portrays as unconscionable and unbearable. In so much of Galen's discourse there is a persistent attitude of beleaguering on the question of why he wrote, and a tension between his desire to dissociate himself completely from the intellectual wasteland he sees around him and to fight against it with aggression and moral self-righteousness.

Early in *The Order of My Own Books* (1,5 Boudon-Millot; 19.50-51 K.), this ambivalence about his role as 'teacher' is expressed with familiar sarcasm:

ἐγὼ μὲν δὴ [μοι] πεπεικῶς ἑμαυτόν, ὥς οὐδ' ἂν ὑπὸ τῶν Μουσῶν αὐτῶν γραφῇ τι βιβλίον, ἐντιμότερον ἔσται τοῦτο τῶν τοῖς ἀμαθεστάτοις γεγραμμένων, οὐκ ὠρέχθην οὐδεπώποτε τῶν ἐμῶν ὑπομνημάτων οὐδὲν ἐν τοῖς ἀνθρώποις εἶναι διαδοθέντων δ' εἰς πολλοὺς αὐτῶν ἄκοντος ἐμοῦ, καθάπερ οἴσθα, πρὸς τὸ δίδοναι τι τοῦ λοιποῦ τοῖς φίλοις ὑπόμνημα λίαν ὀκνηρῶς ἔσχον. **ἤναγκάσθην** δὲ διὰ τοῦτο καὶ βιβλίον τι γράψαι περὶ τῆς ἀρίστης αἰρέσεως...

I long ago realized that if the Muses themselves were to write a book it would still not win more renown than the outpourings of complete imbeciles, and so never had any ambition that my works might be valued among men. Since, however, as you know, they were widely disseminated against my wishes, I was extremely anxious at the idea of giving my friends a written version of any of the remainder. With all this in mind, I even felt *compelled* to write a book on *The Best Sect...* Galen, *De ord. libr. suor.* (1,5-6 Boudon-Millot; 19.50-51 K.)

On the question of the place of logical proof in medicine (*The Order of My Own Books* 1,8-11 Boudon-Millot; 19.52 K.), things evidently got so bad that Galen claims to have resolved to stop publishing altogether, since publishing, he says, would only mean that he would be forced (ἀναγκάζωμαι) to hurl back at his antagonists all those insulting epithets they had used against him – among them charges of 'recklessness' (τόλμα) and 'insanity' (ἐμπληξία). But, although the thought that his writings were being bootlegged anyway made him nervous about writing anything, it also compelled him (ἐξ ἀνάγκης), he

claims, to address the many misrepresentations of his views that emerged from the many unauthorized texts evidently in circulation. Galen's didacticism, in short, is a rhetoric of inevitability – ἀνάγκη – an almost cosmic, and, as I just noted, occasionally even comic, battle between knowledge and ignorance, pretense and integrity.

Only a generation or so before Galen's birth, the same didactic stance, suffused with a strikingly similar rhetoric of compulsion, was honed at Rome by the great satirist Juvenal. Juvenal himself, of course, inherited various satirical conventions from poets across the entire history of Greco-Roman literature, but few of these poets are quite as transparently programmatic about their satiric didacticism as Juvenal in his first Satire. This poem is, briefly stated, about being driven to satirize: not a desire, not a predilection, but a genuine compulsion. Juvenal urges us to look at the state of the world: bad poets, ignorance, avarice, moral perversity, pretense and arrogance of all sorts, and so on. The opening lines of the poem imagine an interlocutor asking him why he should write poetry to begin when there is already so much insufferably bad poetry out there already (to which the poet replies: 'no point, when you meet so many bards, in sparing paper – it's already doomed to destruction', Juv. 1.17-18 tr. Rudd 1991). Like Galen, Juvenal too claims to be torn between writing and remaining silent; neither, however, can resist the temptation to set things straight, and both claim to be pushed to the edge and ultimately compelled to set stylus to papyrus: in Juvenal's case, 150 of the 171 lines of the poem represent his explanation of why he has no choice but to write satire; after a short list of what he regards as contemporary perversities, 22-29, he concludes, 'it's hard *not* to write satire.' (*difficile est saturam non scribere*, 1.30) . There follows yet another rant against disreputable types, punctuated by another address to his readers, 'Am I not right to attack it? [...]' (52) . 'Who can sleep,' Juvenal continues at 77,

*quem patitur dormire nurus corruptor auararum,
quem sponsae turpes et praetextatus adulter?
si natura negat, facit indignatio uersum...*
...when a daughter-in-law is seduced for money,
when brides-to-be are corrupt, and schoolboys practise adultery?
If nature fails, then indignation generates verse...
Juv. 1.77-79, tr. Rudd 1991.

Galen may not have been 'generating verse,' as Juvenal was, but he was certainly often gripped by *indignatio*, and at least implies that even

if his own *natura* failed him (i.e., his ability to write well), he would still have written what he did. I suspect something like this lay behind his repudiation of hard-core Atticism and literary fastidiousness more generally: At the end of *The Order of My Own Books* at any rate, Galen says that he considers it ‘unworthy to blame or censure anyone who commits solecisms. For it’s better to commit a solecism and barbarism of language than of life’ (...ἀπαξιῶ μηδενὶ μέμφεσθαι τῶν σολοικιζόντων τῇ φωνῇ μηδ’ ἐπιτιμᾶν. ἄμεινον γάρ ἐστι τῇ φωνῇ μᾶλλον ἢ τῷ βίῳ σολοικίζειν τε καὶ βαρβαρίζειν, 5,2-3 Boudon-Millot; 19.61 K.). Like Juvenal, in other words, Galen was driven not by a particular desire for stylistic elegance, but for some putative ‘truth.’ It was, for each, a thankless, lonely, even dangerous, task, and one had to push ahead with it, despite the literary compromise that had to be made.

The sense of urgency and indignation that informs this authorial stance had a long history among the satirical genres of Classical literature, stretching back to the Greek iambographers Archilochus and Hipponax, and from there to Old Comedy and into the Hellenistic and Roman periods.⁶ Juvenal had clearly learned much about constructing a persona of self-righteousness and indignation from his immediate predecessor in Roman satire, Horace, who had himself assimilated many satirical conceits from the Greek antecedents I have just mentioned.⁷ One of Horace’s most extended variations on this theme occurs in *Satires* 2.1, where the poet complains to a lawyer friend, Trebatius, that people do not really understand his satire – they either find it too fierce in substance, or too flaccid in style (1-4). When Trebatius advises the poet to give up on satire, Horace responds that, even though he recognizes this as a rational solution, he would never be able to sleep. His attitude is, on the whole, much more overtly lighthearted than Juvenal’s: Horace claims he has no choice but to write satire (specifically, to compose in the tradition of the early Roman satirist Lucilius) because this is what gives him the most pleasure (‘it pleases me to enclose my words with feet in the manner of Lucilius’, ... *me pedibus delectat claudere verba | Lucili ritu...* 28-29),⁸ but even he soon enough adopts a menacing stance that situates himself and the threat of his pen against a world of malefactors around him. At *S.*

⁶ For further discussion, see Rosen and Marks (1999).

⁷ See especially, Freudenburg (1993) 52-108.

⁸ On Horace’s fraught literary relationship with Lucilius, see Freudenburg (2001) 71-108. Despite Horace’s desire to emulate the acerbity of Lucilius, he finds himself subject to far more social constraints on his *libertas* than his predecessor.

2.1.39-46, Horace one minute adopts the posture of a quiet, reasonable man who would be content with peace and harmony ('O Jupiter, Father and King, may my weapon be laid aside and destroyed by rust and may no one injure me, who want peace'), but the next minute is back on the warpath ('But he who rouses me will be sorry – leave well alone, I'm warning you – and will be talked about all over the city, a marked man.', tr. Muecke 1997).

Satirists in fact always seem to be in the process of being 'roused' to action (Horace's term is *commovere*), and Galen often portrays himself in a similar situation. Most of the time what really exasperates him is the technical or philosophical deficiencies of his contemporaries, but there is usually a moral dimension even to his attacks on intellectual incompetence, which he plays up in ways that also suggest striking affiliations with satirical rhetoric. His *Thrasymbulus*, in fact, offers several revealing examples. This work, as its subtitle indicates, is ostensibly about whether 'healthiness' (*to hugieinon*) properly belongs to the medical or gymnastic arts, although by the end of the work, its orientation seems to shift somewhat to the question of what constitutes good and bad gymnastics. Proper gymnastics, Galen believes, can be considered one of the specialisms of medicine that aim to maximize bodily health. Taking his cue from Plato and Hippocrates (cf., e.g., chapter 35 Helmreich, Marquardt and Müller; 5.872 K.), Galen's notion of good gymnastics is not too far from the concerns of dietary regimen and physical exercise. What he objects to, however, is the confusion of gymnastics with athletic training, and the work ends with a scathing rant against athletes and the pretenses of their misguided trainers. For Galen, the athletic state is simply unnatural, and encourages a kind of excess that is not only medically, but also morally unsound. Consider the rhetoric of his diatribe:

τοὺς μὲν δὴ τῆς τοιαύτης εὐεξίας δημιουργοὺς, ὧν ἔστι τὰ θαυμαστὰ ταυτὶ συγγράμματα νῦν ὑπὸ τῶν τὰ ὧτα κατεαγόντων περιφερόμενα, τελέως ἤδη τοῦδε τοῦ γράμματος ἀποδιοπομπησόμεθα. ... τί γὰρ ἂν καὶ πλέον εἴη τοῖς χθὲς μὲν καὶ πρώην πεπαυμένοις τοῦ παρὰ φύσιν ἐμπίπλασθαί τε καὶ κοιμᾶσθαι, τόλμης δ' εἰς τοσοῦτον ἤκουσιν, ὥσθ' ὑπὲρ ὧν οὐδ' οἱ ἱκανῶς ἡσκηκότες <τὴν> ἀκολούθων τε καὶ μαχομένων διάγνωσιν ἔχουσιν εὐπετῶς ἀποφῆνασθαι, περὶ τούτων ἀναισχύντως διατείνεσθαι;
... καὶ μὴν ἐργήγορσις μᾶλλον καὶ φροντὶς οὐκ ἀμαθὴς ἢ ὕπνος ὁζὺν τὸν νοῦν ἀπεργάζονται καὶ τοῦτο πρὸς ἀπάντων σχεδὸν ἀνθρώπων ἄδεται, διότι πάντων ἔστιν ἀληθέστατον, ὡς γαστήρ ἢ παχεῖα τὸν νοῦν οὐ τίκει τὸν λεπτόν. ἴσως οὖν ἡ κόνις ἔτι μόνῃ σοφίαν αὐτοῖς ἐδωρήσατο. τὸν μὲν γὰρ πηλόν, ἐν ᾧ πολλάκις ἐκυλινδοῦντο, τίς ὑπολαμβάνει σοφίας εἶναι

δημιουργὸν ὁρῶν γε καὶ τοὺς σῆς ἐν αὐτῷ διατρίβοντας; ἀλλ' οὐδ' ἐν τοῖς ἀποπάτοις εἰκός, ἐν οἷς διημέρευον, ἀγχίνοιαν φύεσθαι. καὶ μὴν παρὰ ταῦτ' οὐδὲν ἄλλο πρότερον ἔπραττον· ὅλον γὰρ ἐωρῶμεν αὐτῶν τὸν βίον ἐν ταύτῃ τῇ περιόδῳ συστρεφόμενον ἢ ἐσθιόντων ἢ πινόντων ἢ κοιμωμένων ἢ ἀποπατούντων ἢ κυλινδουμένων ἐν κόνει τε καὶ πηλῷ.

... so the artificers of this type of good condition – among which may be counted the extraordinary among which may be counted the extraordinary writings currently being touted by people with severe damage to their ears – may now be once and for all removed from our consideration...these are people who yesterday or the day before were indulging in unnatural stuffing of their bodies and sleep; yet they are so incredibly arrogant as to hold forth, shamelessly and at length, on subjects in which even persons of considerable education may have difficulty in immediately making a correct assessment of the logical conflict or consequence of the propositions...The reality, though, is that wakefulness and intelligent thought, not sleep, are conducive to sharpness of wit; and it is an almost universally approved proverb – because it happens to be perfectly true – that a fat stomach does not make a fine mind. The only possibility that remains is that the dust may have presented them with their great wisdom. It would, however, be a little difficult to imagine mud as the progenitor of wisdom, when one observes that it is the habitual abode of hogs. Nor would one normally consider the lavatories, in which they pass so much of their time, a fertile breeding ground for mental brilliance. And yet these are their only activities: it has been plainly observed that they spend their entire lives in a perpetual round of eating, drinking, sleeping, excreting, or rolling in dust and in mud. Galen, *Thrasybulus* chapter 37 Helmreich, Marquardt and Müller; 5.877-879 K.

Galen clearly has more on his mind here than the mere medical consequences of bodybuilding. Such people are, simply put, gluttons who live their lives like pigs, attending only to the most animalistic bodily needs, and so living a squalid, sub-human life. This is quite comic stuff, and it is difficult to imagine Galen writing it without smiling himself. Of course, the comic potential of bodily functions in Western literature, if not more universally, hardly needs an argument, and it seems clear enough that Galen owes something to the various comic traditions that revel in such humor. Food, consumed in all its varieties and excesses, had a kind of carnivalesque charm in Old Comedy, which Galen, as we shall presently see, would have appreciated, but he may also have encountered the motif, either directly or indirectly, in the Roman satirists, who often deployed it as part of a

calculus of moral *probitas*.⁹ Lucilius, Horace (S. 2.8) Juvenal (5) and Petronius (the *Cena Trimalchionis* episode of his *Satyricon*, 26-79 Buecheler) all wrote satires of comically extravagant dinner parties,¹⁰ in which gluttony becomes the moral sub-text. As a passage from Juvenal 1 makes clear, food, gluttony, moral character *and* medical concerns could all be folded into one rich topos:

<i>optima siluarum interea pelagique uorabit</i>	135
<i>rex horum uacuisque toris tantum ipse iacebit.</i>	
<i>nam de tot pulchris et latis orbibus et tam</i>	
<i>antiquis una comedunt patrimonia mensa.</i>	
<i>nullus iam parasitus erit. Sed quis ferat istas</i>	
<i>luxuriae sordes? quanta est gula quae sibi totos</i>	140
<i>ponit apros, animal propter conuiuia natum!</i>	
<i>poena tamen praesens, cum tu deponis amictus</i>	
<i>turgidus et crudum pauonem in balnea portas.</i>	
<i>hinc subitae mortes atque intestata senectus.</i>	
<i>it nova nec tristis per cunctas fabula cenas;</i>	145
<i>ducitur iratis plaudendum funus amicis.</i>	

Meanwhile the magnate will lounge alone among empty couches, chewing his way through the finest produce of sea and woodland.

(Yes, off all those antique tables, so wide and so stylish, they gobble up their ancestors' wealth at a single sitting.)

Soon there'll be no parasites left. But who could abide that blend of luxury and meanness? What size of gullet could order a whole boar for itself, an animal born for parties?

But a reckoning is nigh. When you strip and, within that bloated body carry an undigested peacock into the bath-house, death steps in, too quick for a will; old age is cancelled.

At once the joyful news goes dancing around the dinners.

The funeral cortège departs to the cheers of indignant friends.

Juv. 1.135-146; tr. Rudd 1991.

Galen's *Thrasybulus*, then, shares with such passages from the Roman satirists not only their desire to derive a morality of food consumption from its medical consequences, but also their distinctive stance of self-righteousness against a target. Among satirical poets this means that the speaker (the poet's 'I') positions himself as someone in a nominally subordinate, inferior, position to the person being attacked: for the satirist, it is the rich man with no self-control over his appetites versus

⁹ On moralizing against gluttony in Roman culture, see Gowers (1993) 18-24.

¹⁰ For a survey of the banquet theme in Roman satire, see Shero (1923).

the poet of modest means and appetites; for Galen in *Thrasybulus*, it is the bulked-up athlete, doubtless admired by the crowds as sports heroes are in our own time, versus a Galen who may be wiser, but physically weaker.¹¹ All these passages carry with them, I would suggest, at least a hint of oppression, abjection even, deliberately cultivated so as to give added sting to the moral victory that they ultimately claim for themselves. Poor old Juvenal may act as if he wished he had all that rich man's money, but, in the end, who would trade places with the man whose riches led to such a sordid death in the baths of Rome? And Galen too, later in *Thrasybulus* (46), pits himself as the little guy against the fattened athletes and their trainers, here again analogized to pigs:

ἐγὼ γοῦν ἐπειράθην ἑμαυτοῦ πολλάκις ἰσχυροτέρου τῶν ἀρίστων εἶναι δοκούντων καὶ πολλοὺς στεφανίτας ἀγῶνας ἀνηρημένων ἀθλητῶν. ἔν τε γὰρ ὁδοιπορίαις ἀπάσαις ἄχρηστοι τελέως ἦσαν ἔν τε [ταῖς] πολεμικαῖς πράξεσιν, ἔτι δὲ μᾶλλον ἐν πολιτικαῖς τε καὶ γεωργικαῖς, εἰ δέ που καὶ φίλῳ νοσοῦντι παραμεῖναι δέοι, πάντων ἀχρηστότατοι συμβουλευσαί τε καὶ συσκέψασθαι καὶ συμπρᾶξαι, ταύτῃ μὲν, ἥπερ γε καὶ οἱ σῦες. ἀλλ' ὅμως οἱ τούτων ἀτυχέστατοι καὶ μηδεπώποτε νικήσαντες ἐξαίφνης ἑαυτοὺς ὀνομάζουσι γυμναστάς, εἴτ' οἶμαι καὶ κεκράγασιν οὐδὲν ἦττον τῶν συῶν ἐκμελεῖ καὶ βαρβάρῳ φωνῇ. τινὲς δ' αὐτῶν καὶ γράφειν ἐπιχειροῦσιν ἢ περὶ τρίψεως ἢ εὐεξίας ἢ ὑγιείας ἢ γυμνασίων, εἴτα προσάπτεσθαι τολμῶσι καὶ ἀντιλέγειν οἷς οὐδ' ὅλως ἔμαθον.

... Even I have frequently proved myself stronger than athletes with the greatest reputations, men who have carried off many a victor's crown. For they all turned out to be useless at any kind of walking, similarly in the actions of war, and even more so at anything to do with the affairs of the city, or husbandry. And if ever they are called to the bed of a friend, they are the worst people in the world, whether at giving advice, or assisting in examination or in action. They are, in fact, just as bad at these activities as swine. Nevertheless, the most wretched and unsuccessful among them have no hesitation in giving themselves the name of gymnastic trainers; at which point they begin to squeal – just like pigs – in a discordant, barbarous voice. Some of them even attempt to write on massage, good condition, health, or exercise, and even to take part in arguments in which they attack people of whose works they have no knowledge... Galen, *Thrasybulus* 46 Helmreich, Marquardt and Müller; 5.894 K.

¹¹ Galen also addresses the topic of gluttony, and insatiability (*aplestia*) more generally, in *De an. aff. dign. et cur.* 9 de Boer; 5.45-46 K.

Galen writes of himself here as Homer describes Odysseus among the Phaeacians in *Odyssey* 8 (141-185), where Euryalus mocks Odysseus' physical weakness, or in the altercation with Irus in *Odyssey* 18 (1-116), where Odysseus (66-70) reveals – to the amazement of all – a brawny physique beneath his beggarly clothes.¹² In each case, Odysseus is taunted for his physical mediocrity – in 8.164, Euryalus hurls a gibe worthy of *Thrasybulus*: 'you don't look like an athlete to me!' – and of course, in each case, intelligence and proper physical conditioning win the day over mere brawn. There is some evidence, in fact, as I have argued elsewhere, that this Odyssean topos of a physically unremarkable character ultimately vanquishing the athletic braggart was appropriated early on by the satirical poet Hipponax, active in the sixth century BC, who at some point in his work seems to have modeled a comic role for himself on these very Homeric passages.¹³ The notion of Galen squaring off, like a knowing Odysseus, with the top athletes of his day, and coming out victorious, seems similarly comical. Once again, this is the rhetoric of an underdog, comically arguing his way from a position of putative oppression to one of moral superiority.

To achieve this, the satirist, at least, has to present himself as untainted by the pretense and affectations that characterize his antagonists, and so he will typically profess to live, or aspire to, a simple, wholesome life, governed by common sense and self-control. Galen may have unconsciously adopted a similar attitude from an undifferentiated understanding of satirical rhetoric, but one coincidence of detail does seem striking. In his *On the Diagnosis and Cure of the Errors of the Soul*, Galen pays an extended tribute to his father (8.3-7 de Boer), where we learn what an important influence he was on his moral education and character.

ἡ μὲν οὖν ὑπὸ τῷ πατρὶ παιδεία τοιαύτη τις ἦν· ὑποπληρώσας δὲ τετταρεσκαίδέκατον ἔτος ἤκουον φιλοσόφων πολιτῶν, ἐπὶ πλείστον μὲν

¹² While it may be impossible to say for sure that he had these specific literary antecedents in mind when writing *Thrasybulus*, there is no question that Galen was well versed in Homer, and even quotes a section of the Euryalus episode elsewhere to illustrate the moral dangers of excessive devotion to one's physique. Cf. *Protr.* 8, Barigazzi (1991). Indeed, Galen cites Homer four other times in the same section of this treatise (all Iliadic passages) in order to censure those who privilege physical beauty and brute strength over the moral cultivation of the soul.

¹³ Cf. Rosen (1990). Hipponax seems to have adopted the stance of the disguised and abject Odysseus at some point in his poetry, only to surprise his adversary, or adversaries, with a display of unexpected strength.

Στωϊκοῦ, Φιλοπάτορος μαθητοῦ, βραχὺν δέ τινα <χρόνον> καὶ Πλατωνικοῦ, μαθητοῦ Γαΐου, διὰ τὸ μὴ σχολάζειν αὐτὸν εἰς πολιτικάς ἀσχολίας ἐλκόμενον ὑπὸ τῶν πολιτῶν, ὅτι μόνος αὐτοῖς ἐφαίνετο δίκαιός τε καὶ χρημάτων εἶναι κρείττων, εὐπρόσιτός τε καὶ πρᾶος. ἐν τούτῳ δέ τις καὶ ἄλλος ἦκε πολίτης ἡμέτερος ἐξ ἀποδημίας μακρᾶς, Ἀσπασίου τοῦ Περιπατητικοῦ μαθητῆς, καὶ μετὰ τοῦτον ἀπὸ τῶν Ἀθηνῶν ἄλλος Ἐπικούρειος, ὧν ἀπάντων ὁ πατήρ δι' ἐμὲ τοῦ τε βίου καὶ τῶν δογμάτων ἐξέτασιν ἐποιεῖτο σὺν ἐμοὶ πρὸς αὐτοὺς ἀφικνούμενος ... καθάπερ οὖν, ἔφη, δεῖ μὴ προπετῶς ἀπὸ μιᾶς αἰρέσεως ἀναγορεύειν σεαυτόν, ἀλλ' ἐν χρόνῳ παμπόλλῳ μανθάνειν τε καὶ κρίνειν αὐτάς, οὕτως <ᾱ> πρὸς ἀπάντων μὲν ἀνθρώπων ἐπαινεῖται, συνομολογεῖται δὲ καὶ τοῖς φιλοσόφοις εἶναι ζηλωτέα, ταῦτα καὶ νῦν ἤδη καὶ διὰ παντὸς τοῦ βίου ζηλωτέον ἀσκεῖν, καὶ μανθάνειν καὶ αὐξάνειν ἀξιώ σε δικαιοσύνης ἀντιποιοῦμενον καὶ σωφροσύνης ἀνδρείας τε καὶ φρονήσεως.

This, then, was the kind of training that I had from my father. After which, on completion of my fourteenth year, I began to attend the lectures of philosophers of my home city – mostly those of a Stoic, a pupil of Philopator, but also for a short time those of a Platonist pupil of Gaius... Then there was another fellow citizen, too, who had returned from a long trip abroad – a pupil of Aspasia the Peripatetic; and after him another from Athens, an Epicurean; with each of these men, my father made an examination of their lives and doctrines on my account, accompanying me to visit them... And he encouraged me not to declare myself hastily the adherent of any one sect, but to take a long time in order to learn about them and judge them; in the same way, he said, I should follow a procedure universally approved, and agreed on by the philosopher, striving throughout my life to improve myself, making an effort to acquire the qualities of justice and temperance, courage and prudence. Galen, *De an. aff. dign. et cur.* 8.3-7 de Boer; 5.43-44 K.¹⁴

This passage will immediately remind us of Horace's long tribute to his own father in *S.* 1.6 (45-88), part of which is worth quoting here:

<i>atqui si vidis mediocribus ac mea paucis</i>	65
<i>mendosa est natura, alioquin recta, velut si</i>	
<i>egregio inspersos reprehendas corpore naevos,</i>	
<i>si neque avaritiam neque sordis nec mala lustra</i>	
<i>obiciet vere quisquam mihi, purus et insons</i>	
<i>(ut me collaudem) si et vivo carus amicis,</i>	70
<i>causa fuit pater his, qui macro pauper agello</i>	
<i>noluit in Flavi ludum me mittere, magni</i>	
<i>quo pueri magnis e centurionibus orti,</i>	

¹⁴ I follow de Boer's *CMG* text, but see now also Magnaldi (1999).

*laevo suspensi loculos tabulamque lacerto,
 ibant octonos referentes Idibus aeris,* 75
*sed puerum est ausus Romam portare docendum
 artis quas doceat quivis eques atque senator
 semet prognatos.*

Yet if my nature, while marred by a few not too serious faults, is otherwise sound (just as you might criticise stray moles on an outstanding body), if no one will be able fairly to charge me with avarice or meanness or resorting to low brothels, if (to sing my own praises) I live a life which is pure and innocent and endears me to my friends, this is all thanks to my father. Poor as he was, with only a lean little plot, he refused to send me to Flavius' school, where the towering boys, sprung from towering centurions, used to go, with their satchels and slates slung over their left shoulders, duly carrying their eightpenny fee on each Ides; instead, he had the courage to transport his son to Rome, to be taught the skills which any knight or senator teaches his offspring.

Hor. *S.* 1.6.45-88; tr. Brown 1995.

Scholars have on occasion cited both of these passages for evidence that fathers often accompanied their sons to school in Antiquity,¹⁵ but we must not, as well, underestimate the rhetorical effect of each paternal *hommage*. We cannot say whether or not Galen knew the Horatian passage, but he deploys his father in a strikingly similar way as a key player in the drama of his own moral development. Galen's father was hardly the poor man that Horace makes his own father out to be, but he was equally pivotal in marking out his son as someone different from the crowd, someone whose self-righteousness is presented as genuine and credible. In each case, then, the father implicitly effects a *captatio benevolentiae*. There is no need to doubt the basic veracity of either author's narrative of their early upbringing, or the sincerity of their filial piety, but it is worth noting how deliberately each of them constructs this father-son relationship to serve as a model for their own didactic programs.

I have focused here on satirical tropes and posturing primarily from Roman traditions, because they are particularly rich and sustained, and relatively close in time to Galen's own stay in Rome. How much Latin Galen would have spoken and understood, and beyond that, how much non-medical Latin literature he would have known, must remain an open question, although given the amount of time he resided in Rome (at least forty years), and the high imperial circles in which he traveled,

¹⁵ E.g., Nutton (2004) 389 note 8.

it is clear that his engagement with Roman culture was significant and varied.¹⁶ While the Roman élite of this period regarded the Greek language as a marker of high culture, it is highly unlikely that Galen got by in Rome speaking only his native tongue and difficult to imagine him treating Roman patients over four decades without some ability to communicate in Latin.¹⁷

But it is quite likely that he learned just as much about satirically didactic rhetoric from much earlier Greek sources. There were also surely connections between Galen's self-righteous didactic stances and his comically imaginative invective, and Aristophanes, especially the parabases of his comedies, where the chorus leader often adopted the voice of the poet to censure the wicked and praise his own, lonely mission of sanity and virtue in an otherwise corrupt world.¹⁸ We know, in fact, that Galen had a special fondness for Attic Old Comedy, for he mentions at the end of *On My Own Books* (20 Boudon-Millot; 19.48 K.), in his list of his 'rhetorical and linguistic works,' that he wrote five different works on poets of Old Comedy: *Ordinary Terms in Eupolis*, *Ordinary Terms in Aristophanes*, *Ordinary Terms in Cratinus*, *Examples of Words Specific to Comic Writers*, and *Whether Old Comedy is Useful Reading for Students*.¹⁹ All these works are, alas, lost, but their titles alone testify to the sort of topics that occupied Galen's mind when he was not writing specifically on medicine.

¹⁶ For basic chronological details of Galen's life, see now Nutton (2004) 216-29. For detail on Galen's stay in Rome, see Schlange-Schöningen (2003) 137-221.

¹⁷ See Nutton (2004) 393 note 71. Although we hear far more about Romans learning and speaking Greek than we do about Greeks speaking Latin, evidence for the latter has been well discussed in Holford-Strevens (1993), Rochette (1997) (on Galen, in particular, see pp. 244-45), and Adams (2003). As Adams in particular shows, however, there is considerable variation in Latin competence among Greek speakers – we find evidence for beginning learners or businessmen getting along with a practical amount of Latin, as well as speakers we might consider truly bi-lingual, even literate. It is hard to situate Galen with any precision along such a spectrum, although, given his obvious intellectual catholicity and culturally élite orientation, it is not difficult to ascribe to him a high level of literacy even in his adoptive Roman culture. For a useful overview of the complex of issues at stake in considering Greco-Roman bi-lingualism, see Adams (2003) 751-66. See also Langslow (2000) 28-33 on the complex cultural and linguistic question of 'medical Latin' during the Roman Empire.

¹⁸ On the dynamics of the Aristophanic parabasis, see, in general, Sifakis (1971) and Hubbard (1991).

¹⁹ De Lacy (1966) 265, also mentions these titles in a general discussion of Galen's respect for the Greek poets, noting that, although Galen disapproved of using Greek poets as part of syllogistic, scientific argumentation, he respected their ability to portray human behavior engagingly. On Galen's interest in poetry, especially didactic poetry, see now also von Staden (1998) and Vogt (2005).

Why might he have been so interested in Old Comedy? The recently discovered treatise, *On Avoiding Depression* (Περὶ ἀλυπίας, chapters. 25-27) notes that his works on Old Comedy were intended to enhance the reader's knowledge of Attic Greek, but it could well be that he was also taken by the moral tone that satirical genres such as Old Comedy are fond of adopting.²⁰ I suspect, however, that Galen was responding specifically to the *comedy* of Old Comedy, to the ways in which it made moral censure funny, and so perhaps more rhetorically effective than clearer, but drier, philosophical writing. For Galen there may well have been other lessons to be learned from Old Comedy: first, how to categorize the world's many vices by easily recognizable *types*, often by means of caricature or parody, and second, how to construct an intensely self-righteous authorial persona to combat these types, leavened with just enough humor to maintain the sympathies of one's readers.

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²⁰ On the Περὶ ἀλυπίας see Boudon-Millot (2007a). For Galen's treatises on comic poets, see von Staden (1998) 81-82, who notes that such authors – however apparently far removed from scientific writing – could nevertheless serve as a 'quarry' for vocabulary, and as models of clarity (σαφήνεια) and precision (ἀκρίβεια). See also von Staden (1997) 53 (et passim), for the 'second sophistic' literary culture that informed so much of Galen writing, and Boudon-Millot (2007) 233, n 6, and Galen's other discussion of comic vocabulary at *De nomin. med.* (31-32 Meyerhof-Schacht), where he notes (as he does also in *On Avoiding Distress*) that the comic poets could be useful for understanding Hippocratic language.

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Hippocrates in the pseudo-Galenic *Introduction*: Or how was medicine taught in Roman times?¹

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Summary

The Pseudo-Galenic *Introduction* (*Introductio sive medicus*, 14.674-797 K.), a medical handbook of the Roman period, witnesses the importance of Hippocrates in medical teaching at the time. Numerous quotations, allusions and reminiscences from the *Hippocratic Corpus* illustrate Hippocrates' authority for Pseudo-Galen. In the light of the first critical edition of the text (C. Petit, *Les Belles Lettres*, Paris, 2009), this article discusses the function of Hippocrates, and the various reminiscences of the *Hippocratic Corpus*, in order to assess Pseudo-Galen's quotation technique and, ultimately, his reliability as a source for the history of medicine.

In Roman times, the teaching and dissemination of medical knowledge was mediated in part by written texts. Vectors of medical tradition and practical knowledge, such texts bear the hallmarks of the most influential currents of thought, i.e., the multiple sects (with dogmatic or empirical allegiances) claiming descent from Hippocrates. The first-hand examples of the pedagogical use made of Hippocrates exist in quite substantial quantities and in some variety; but within the sources as they stand, the most significant witness is Galen of Pergamon. Time and again, he makes clear that his absolute master is Hippocrates. The ways in which he presents and makes use of Hippocrates has been the subject of many and diverse studies.² However, the huge presence of

¹ I should like to thank the organisers of the XIIth Hippocratic Conference for their invitation to speak and their acceptance of this paper in the present volume; and the Wellcome Trust for financially supporting my participation. I am most grateful also to Professor Jaap Mansfeld for the invaluable bibliographical suggestions he gave me after I delivered my paper. Martin Sorrell has translated the French version of this paper into English; the French version will appear in LEC, 2009.

² Certain commentaries have come down to us, such as that of Apollonius of Citium, and some of Galen, but the lacuna is immense when one considers the number of treatises that must have been written, notably by the empirical school, between the

Galen should not crowd out the interest, the specificity, of other sources. Certain medical texts of the Imperial era are equally worthy of examination, such as the pseudo-Galenic *Medical Definitions*, or the *Introduction*.³ In fact, the use of these texts of unknown authorship makes the Hippocratic Corpus of interest where the reception of the *Hippocratic Corpus* is concerned, and they may provide material as useful as Galen himself for textual authentication; inasmuch as they contain quotations, these treatises form part of the indirect tradition. Even though it remains to be established, the possibility should be recognised that these testimonies are of real worth to an editor of such treatises. Conversely, the *Hippocratic Corpus* itself may help clarify the way in which these texts were written, and thus better situate them in their context. Where the *Medical Definitions* are concerned, as with the *Introduction*, this context is a scholarly one: they are manuals.⁴ These treatises therefore bear witness to the medical teaching of their times, in particular to the role played by Hippocrates, if not from a scientific one, then one that is symbolic, historical and literary – and this in an epoch when medicine had undergone profound changes, seven centuries separating Hippocrates from Galen, an epoch when the number of medical authorities had multiplied, due principally to influence exerted by the appearance of sects.

Hellenistic time and that of Galen. Recent research has brought to light some fragments of commentaries on Hippocrates in the papyri (see for example the commentary on the *Aphorisms* identified last year by D. Manetti in a scroll held in Manchester), which reveal even more decisively how intense Hippocratic scholarship has been. The bibliography relating to the afterlife of Hippocrates in the ancient texts is sizeable. On Galen as reader of Hippocrates, see in particular Diller (1933), García Ballester (1968), Harig & Kollesch (1975), Manetti & Roselli (1994) and Jouanna & Boudon (1997) in which a more detailed bibliography can be found.

³ J. Kollesch has done a critical edition of Pseudo-Galen's *Medical Definitions* for the *CMG*, though they are still available just in Kühn's edition (19.346-462 K.), burdened by numerous interpolations (Kollesch 1967 and 1968). According to the research of Kollesch already published (1973, 60-66), the date of this treatise can be given as the end of the first century AD. The *Introduction* (14.674-797 K.) also has been in circulation wrongly attributed to Galen, though dating from probably the same era as the doctor of Pergamo (Petit 2009), xxxvi-li. We might remind ourselves that the convenient name of 'Pseudo-Galen' masks a complex, multifaceted reality, and an – as yet – undetermined number of authors and eras.

⁴ This is my initial hypothesis. These treatises display many characteristics of scholarly books. Nevertheless, this bald classification needs to be refined, as there is no sure way of determining their intended readers. That said, given the current textual status of the *Definitions*, the first sentence of its preface makes very clear the readership envisaged – doctors/practitioners in general, and more particularly those in the first stages of the profession (τοῖς εἰσαγομένοις) (19.346 K.).

I have mentioned in the same breath the *Medical Definitions* and the *Introduction* as the two texts have come down to us side by side in manuscripts and in editions published from the Renaissance onwards.⁵ Hence the habit in modern scholarship of linking them, although no in-depth comparative study has been undertaken. Such a study would be instructive and invaluable, but since the text of the *Medical Definitions* is difficult to analyse,⁶ my main focus will be on the *Introduction*.⁷

In it, Hippocrates is the central figure, whose broad outline will act as guide to the labyrinth of varied quotations and reminiscences which Pseudo-Galen derives from the Collection. What is of interest here essentially is to make a study of the *Hippocratic Corpus* as source of the *Introduction*, via Pseudo-Galen's way of quoting, cutting, deforming, absorbing the texts. I will finish by attempting to show how the presence (or absence) of Hippocrates lies at the heart of the historical problem posed by the *Introduction* (date, author, recipients, value).

Hippocrates and 'the perfected medicine current among the Greeks'

First observation (disappointing?): the author's presentation of Hippocrates offers nothing which can surprise the reader of Galen. In the *Introduction*, Hippocrates enjoys a pre-eminence of a quasi-divine aspect, in contradistinction to all other doctors. From the very first chapter, devoted to the discovery of medicine, Hippocrates is up there among the pioneers:

Τελείαν δὲ ἰατρικὴν καὶ τοῖς ἑαυτῆς μέρεσι συμπληρωμένην, τὴν μὲν ὡς ἀληθῶς θεΐαν Ἀσκληπιὸν μόνον εὕρεϊν, τὴν δ' ἐν ἀνθρώποις τοὺς

⁵ I have been able to identify nine Greek manuscripts which give the two treatises together. All are of recent date, and several figure among the direct sources of the Aldine (first edition/editio princeps) of 1525, which explains the longevity of the pseudo-Galenic couple in the printed tradition.

⁶ While we await the critical edition of this most important work, we must make do with Kühn's, that is, a text that has been disfigured as much by the process of transmission of the Galenic corpus (in which Kühn is merely a distant avatar of the editio princeps of 1525), as by multiple mediaeval interpolations (Meletius) or modern ones (René Chartier). I therefore considered it preferable to rely as little as possible on this treatise, which remains nevertheless of major importance in the history of medicine.

⁷ No overview will be given here of this text, which from the start has been recognised as an essential resource for historians of medicine, and has been quoted abundantly and mentioned in the footnotes of many recent publications. See Petit (2005a and 2009).

Ἀσκληπιάδας παρὰ τούτου διαδεξαμένους τοῖς μετέπειτα παραδοῦναι, μάλιστα δὲ Ἱπποκράτει, ὃς πάντων ὑπερήνευκε καὶ πρῶτος εἰς φῶς ἐξήνευκε τὴν τελείαν παρ' Ἑλλήσιν ἰατρικὴν. (Pseudo-Galen 1.1 [3 Petit; 14.675 K.])

(Rational) medicine was discovered by Asclepius, himself taught by the god Apollo, his father, and then transmitted to mankind through the intermediary of Asclepiades, and most of all of Hippocrates, 'who was the first to bring to light the perfected medicine current among the Greeks.'⁸ As with Galen,⁹ the commonplace *prōtos heuretēs* puts Hippocrates on a par with deity at the birth of medicine; a rational medicine to be distinguished from the empirical kind which existed in Greece and Egypt before Asclepius. So, from the outset, the image of Hippocrates is linked with a conception of medicine as a demanding art, based on reason and not just on custom or experience.

The portrait of Hippocrates is filled out by what follows. Again, in chapter 9, Hippocratic medicine is assimilated to the perfect and divine medicine brought to us by Asclepius. Pseudo-Galen opposes to this the choices – disastrous ones – made by his successors or inheritors (*diadochoi*), who broke up something that had been harmonious and unified, thereby ruining medicine's initial perfection:

Ἱπποκράτης μὲν οὖν διὰ τριῶν κεχώρηκεν, εἰπὼν στοιχεῖα ἀνθρώπου ἴσχοντα, ἰσχύμενα, ἐνορμῶντα, δι' ὧν τὰ πάντα τῶν μετ' αὐτὸν περιείληφε στοιχεῖα καὶ τὴν κατὰ στοιχείων φυσιολογίαν τε καὶ αἰτιολογίαν τῶν παρὰ φύσιν· οἱ δὲ μετ' αὐτὸν οὐκ οἶδ' ὅπως μίαν οὔσαν τὴν θεῖαν ταύτην καὶ ἀληθῶς Ἀσκληπιοῦ ἰατρικὴν τριχῇ διανεϊμάμενοι καὶ διασπάσαντες τὰ ἐν αὐτῇ συμφυῇ μέρη (...). (Pseudo-Galen 9.6 [21-22 Petit; 14.698 K.])

The metaphor of successors and of the divided and wasted heritage reinforces most effectively the *motif* of the *prōtos heuretēs*. Hippocrates is therefore simultaneously an essential link in the chain which transmits medicine from the gods to men and the incarnation of a lost perfection, the high point of the Art before it goes into decline. Independently of the many quotations from the body of Hippocratic writing, to which we must return, the concrete aspects of this perfection in the final analysis rarely appear in descriptive terms in the *Introduction*. No portrait is to be found of the ideal doctor, of which

⁸ Regarding the text of Pseudo-Galen, see my edition to appear in the Collection Budé. For a resume and principal conclusions, see Petit (2009).

⁹ See for example Galen, *De fac. nat.* 2 (5 K.).

Hippocrates might have been an emblematic part. This is doubly surprising given that the title of the treatise, *Doctor*, appears to herald a text based more on *artifex* than on *ars*.¹⁰ Nevertheless, the author alludes to one of Hippocrates's qualities: the skilful concision of his style, an aspect of Hippocratic perfection equally dear to the heart of Galen, as we know.¹¹ But this concision takes on greater meaning when we recognise that brevity and simplicity are hallmarks of Pseudo-Galen, irrespective of how it was composed (assemblage of paragraphs lifted from diverse sources, or the work of just one man). The text's unity derives in part from the economy of expression which marks it from start to finish. As we shall see later, the concision of Hippocrates, highlighted by Pseudo-Galen, is not an empty word, and it may apply particularly to the Hippocrates which he quotes, as much as to his own style. And formal determination, in the case of Pseudo-Galen, constitutes an essential element in the historical analysis of the text.

The role of Hippocrates in the history of medicine according to Pseudo-Galen, however, is not that of a universal founder of the content and the constituent parts of medical art. Those doctors who, in contrast to the earliest Hippocratic medicine, are criticised by Pseudo-Galen are not as a result considered as a footnote by the author. They are a central part of the whole work. The theoretical role of the *pneuma* in the genesis of illness, for example, has its origins in certain recent works of the *Hippocratic Corpus*, such as the treatise *Nutriments*. But the role should be more clearly attributed to the doctors of the school of Athenaeus of Attalia, who, says Pseudo-Galen, call themselves The Pneumatics because of the importance they attach to the *pneuma*. The *pneuma* is one of the causes of illness listed by Pseudo-Galen; it has itself been taken as representative of the Pneumatic School.¹² In places, Erasistratus is the object of criticism, although elsewhere his judgements are reproduced without any discussion.¹³ The Methodists themselves are quoted without commentary. Thus Pseudo-Galen mentions the

¹⁰ See Norden (1905) 516-517.

¹¹ Pseudo-Galen, *Introd. s. medic.* 2.1 (4 Petit; 14.677 K.). Regarding Galen, see Sluiter (1995) 198-199 who cites the Pergamenian doctor (*In Hipp. Aph. comment.* 17b.351-355 K.) a propos the usefulness of the aphoristic form – a passage I quote later. Magdelaine (2004) 74 deems this passage of negligible importance, given the lack of real interest shown by Galen in the nature of aphorisms. But Galen likes to underline the simplicity and brevity of Hippocratic constructions using the adverb ἀπλῶς, exactly as in Pseudo-Galen. This must have been commonplace in medical tradition.

¹² See Petit (2009) xxv, esp. note 28.

¹³ See for example Pseudo-Galen, *Introd. s. medic.* 8.3 (16 Petit; 14.692 K.); 13.31 (61 Petit; 14.746 K.).

diatritos (a three day period completely without food) introduced into a dietary regime.¹⁴ To take one example among the branches of medicine identified by Pseudo-Galen, anatomy owes much to Aristotle, to the School of Erasistratus, and above all to Apollonius of Memphis and Xenophon,¹⁵ though not to Hippocrates (that is, not explicitly). And so Pseudo-Galen reflects that part of medical history which may be classed as Galenic in some measure. As in Galen, Hippocrates is allowed considerable scientific status and an even greater symbolic one. The Hippocrates lineage is a given in his argument as it is for Galen (and a few others), but the point is that it serves a function. To think of Hippocrates as the founder of a thorough, rational Art is to place on him the responsibility for a rationalist conception of medicine in opposition to the (supposed) excesses of empiricism and methodism.

Quotations and reminiscences¹⁶ from the Hippocratic Corpus

The way in which Pseudo-Galen uses Hippocratic texts reveals how far he will stray from written sources; a material distance – Pseudo-Galen cannot have had Hippocrates's books in front of him – and an intellectual distance in that he distorts and rewrites (consciously or not) Hippocrates's words. We should not forget the reality of manifest constraints. The case of the *Hippocratic Corpus* deserves a leading place in the study of Pseudo-Galen's sources, as the texts in the *Corpus* may be compared to the quotations and other allusions found in the *Introduction*. Where other sources are concerned, an editor will not have the same luck, as for the most part these are lost. One important fact, however, should be retained: in appropriating their predecessors, the Ancients used accepted modalities which, without any malicious intent, allowed letter to yield to rough spirit. The paradigmatic value of the *Corpus*'s treatment, then, merits inspection, though such value exists *a priori*. Analysis of quotations and other borrowings in terms of an indirect tradition always requires great caution, as editors, especially of textual fragments, know all too well.¹⁷

¹⁴ See Pseudo-Galen, *Introd. s. medic.* 13.4 (47 Petit; 14.731-732 K.); 20.4 (101-102 Petit; 14.793 K.).

¹⁵ See Pseudo-Galen, *Introd. s. medic.* 10.1 (23 Petit; 14.699-700 K.).

¹⁶ Useful term borrowed from the most elegant analysis made by Whittaker (1989) in the *Didaskalikos* of Alcinoos.

¹⁷ Among recent work focussing on the analysis of quotations and of fragments, see for example Lenfant (1999) and van der Eijk (1999).

To show the kind of connections between the *Introduction* and its sources, a detailed analysis of each quotation and ‘reminiscence’ should be undertaken.¹⁸ The aim here simply is to provide a few examples that illustrate the principal characteristics of the *Introduction*’s use of the *Hippocratic Corpus*. Quotations should be distinguished from other borrowings – I will limit myself to this term, as their nature is less clear: opinions attributed to Hippocrates but which cannot be authoritatively located in the extant treatises. The most important quotations concern theory: they are to be found in treatises *Breaths* and *The Art* – however, the latter is not attributed by Pseudo-Galen to Hippocrates. A long quotation from *Nature of Man* and several from the *Aphorisms* are also to be found.

First possible way in which Pseudo-Galen deals with Hippocrates: quotations conform to the direct Hippocratic tradition, give or take a few dialectal variants. Thus, the celebrated quotation from *Nature of Man*, which it is not particularly helpful to revisit here.¹⁹ Suffice to note that it accords with Hippocrates as handed down by Galen. The quotation from *Breaths* parallels the one made by Galen in Book IX of *On the Therapeutic Method*, according to the critical apparatus provided in J. Jouanna’s edition of *Breaths*. First, Hippocrates, then Pseudo-Galen:

Ἱητρικὴ γάρ ἐστιν ἀφαίρεσις καὶ πρόσθεσις, ἀφαίρεσις μὲν τῶν πλεοναζόντων πρόσθεσις δὲ τῶν ἐλλειπόντων [πλεοναζόντων A Vat. Gal.: ὑπερβαλλόντων M vulg.] (Hipp. *Flat.* 1.5 (104 Jouanna).

Ἱατρικὴ ἐστὶ κατὰ μὲν Ἱπποκράτην πρόσθεσις καὶ ἀφαίρεσις, πρόσθεσις μὲν τῶν ἐλλειπόντων, ἀφαίρεσις δὲ τῶν πλεοναζόντων ἐπὶ ἀνθρωπείων σωμάτων. cf. Galen, *De meth. med.* 11.12 (10.772 K.) (ita et *Parisinus gr.* 2160).

In this particular instance, the indirect tradition as shaped by Galen and Pseudo-Galen confirms a section of the Greek manuscripts, namely the *Urbina gr.* 64 (Vat) and the *Parisinus gr.* 2253 (A) against the *Marcianus gr.* 269 (M). In fact, as the text of *On the Therapeutic Method* is available only in the Kühn edition, the closeness of Galen to Pseudo-Galen cannot be stressed too much (an issue already underlined by J. Jouanna); Pseudo-Galenic manuscripts have been collated

¹⁸ For a comprehensive study of these ‘quotations’ in their widest sense, see Petit (2004) lxxviii–xciii.

¹⁹ See Hipp. *Nat. Hom.* (ed. Jouanna, *CMG* I.1.3, 172).

whereas those of the *On the Therapeutic Method* await collating. As a test case, I consulted the *Parisinus gr.* 2160 of the fifteenth century, copied by Jean Rhosos, and it conforms to that of Kühn, save for the Ionian form ἱητρικὴ for ἰατρικὴ. It might be helpful to note here that this manuscript also contains Pseudo-Galen's *Introduction*. The convergence of the two texts is therefore, perhaps no accident. It is probable that in this section the text of the Galen manuscripts is multi-authored. In any event, to all appearances, Galen and Pseudo-Galen have the same order of words as Vat, and confirm the Antiquity of the lesson of the manuscripts A and Vat for *pleonazonton*. How may such a resemblance, so literal, be explained if not by a shared scholarly backcloth common to medical practitioners of the period, or by contamination of the two texts? Despite the plausibility of the last-mentioned hypothesis, that of a shared scholarly tradition seems to me well supported by the analysis of other passages. We find that Pseudo-Galen's gloss of an obscure aphorism of Hippocrates is precisely the same as Galen's in another context. The gloss in question is of the aphorism found in *Epidemics* 6:

Τὰ ἴσχοντα, ἢ ἐνορμῶντα, ἢ ἐνισχόμενα. Hipp. *Epid.* 6.8 (7 Manetti-Roselli).

Apart from a few orthographic variants, Galen and Pseudo-Galen reproduce and gloss the three elements of this triptych in similar terms, attributing the solid parts to the 'containing' parts (ἴσχοντα), the liquid parts, or humours, to the contained parts (ἐνισχόμενα), and the *pneuma* to the motor parts (ἐνορμῶντα). This physiological interpretation, which in the context of the *Epidemics* is none too obvious for the modern reader, probably owes much to the scholarly exegetical tradition in which the *Hippocratic Corpus* is situated.²⁰

By contrast, a case of obvious deformation may be found in a quotation taken from of the treatise *The Art* (I give first the text edited by J. Jouanna and then that of Pseudo-Galen):

Καὶ πρῶτόν γε διορεῦμαι ὃ νομίζω ἱητρικὴν εἶναι· τὸ δὴ πάμπαν ἀπαλλάσσειν τῶν νοσεόντων τοὺς καμάτους καὶ τῶν νοσημάτων τὰς σφοδρότητας ἀμβλύνειν, καὶ τὸ μὴ ἐγχειρεῖν τοῖσι κεκρατημένοις ὑπὸ

²⁰ See Pseudo-Galen, *Introd. s. medic.* 9.2 (20 Petit; 14.696-698 K.) and Galen, *De diff. febr.* (7.278 K.); Galen, *De trem.* (7.587 K.).

τῶν νοσημάτων, εἰδότες ὅτι πάντα ταῦτα δύναται ἱητρική (Hippocrates, *De Arte* 3.2 (226-227 Jouanna; 6.4-7 L.).

ὃν γάρ τινες ὅρον ἱατρικὸν ᾤθησαν, οὐκ ἔστιν ὅρος· τό τε μὴ παράπαν ἀπαλλάσσειν τῶν νόσων τοὺς κάμνοντας καὶ τὸ τὰς σφοδρότητας ἀμβλύνειν καὶ τὸ τοῖς κεκρατημένοις μὴ ἐγχειρεῖν. οὐ γὰρ ἐξ ὧν μὴ δύνανται αἱ τέχναι, ἀλλ' ἐξ ὧν δύνανται οἱ ὅροι αὐτῶν εἶσιν. (Pseudo-Galen 6.2 (12 Petit; 14.687 K.).

The comparison speaks for itself; nevertheless I must draw attention to the negation of the beginning (*mē*) because there is argument over the legitimacy of the negative *ou* in Hippocrates's text; in fact, this is a recent correction made in line with the *Medical Definitions* of Pseudo-Galen, which itself offers such a definition. Yet I do not believe that the negation of the *Introduction* (once again the manuscripts concur) constitutes proof of the Antiquity of the negation in the Hippocratic text, because the remainder of the quotation is inaccurate. In fact *mē* surely is an error of Pseudo-Galen, perhaps a misreading of *dē*. What is interesting is that Pseudo-Galen is commenting on a negative construction, which therefore *a priori* is wrong. The error goes back a very long way. The other interesting aspect is that it is a definition lifted from a Hippocratic treatise which Pseudo-Galen does not attribute to Hippocrates (counter to the whole of the ancient tradition, notably Erotian and Galen) and criticises ('that which some consider a definition... in fact is not a definition') for being a negative definition. We have then a case which is of interest in terms of the reception of the Hippocratic text, even if, as everything suggests, Pseudo-Galen quite simply has got it wrong. Other cases of blatant deformation could be examined, for example, on the subject of the eye's membranes (Pseudo-Galen 11) and in the section on surgery (Pseudo-Galen 20).²¹

Pseudo-Galen quotes several aphorisms besides, taken either from *Aphorisms* (2.42; 5.21; 7.15-16) ..., or other Hippocratic texts such as the treatise *Places in Man*, *Nutriments*, or *Epidemics*. Some in fact do not appear as such (they are not strictly quotations), but it is easy to identify them as sources (direct or not) for Pseudo-Galen. In the case of aphorism 5.21, the name of Hippocrates is not quoted; the aphorism of

²¹ These points will not be developed here, interesting and instructive as they may be. I refer the reader to my thesis for an analysis of the relevant passages (Petit [2004] lxxxviii for reminiscences contained in the treatises on surgery; xcii and 127 for the lack of resolution on the subject of the eye's membranes.

the treatise *Nutriment* 23 had even disappeared from printed editions.²² As for authentic quotations, it is interesting to observe that Pseudo-Galen happily quotes Hippocrates while simplifying him in order to strengthen the language and soften its asperities – remove all the particular aspects – in the service of the greatest generalisation possible. The deformation of *Aphorisms* 7.15 and 16 are excellent illustrations:

Ἐπὶ αἵματος πτύσει, πύου πτύσις.
Ἐπὶ πύου πτύσει, φθίσις καὶ ῥύσις· ἐπὶ δὲ τὸ σίελον ἴσχηται,
ἀποθνήσκουσιν. Hipp. *Aph.* 7.15-16.

ἐφ' αἵματος πτύσει
πύου πτύσις· ἐπὶ πύου πτύσει φθίσις· ἐπὶ φθίσει θάνατος. Pseudo-Galen
13.27 (59 Petit; 14.743 K.)

Pseudo-Galen has condensed two successive aphorisms into one, made it simpler, more striking (note the ternary rhythm and the double asyndeton), but also more abstract. In so doing, the precise symptoms of impending death have been lost. The same tendency to abstraction and to re-writing in the aphorism taken from *Places in Man*:

Φύσις δὲ τοῦ σώματος, ἀρχὴ τοῦ ἐν ἱητρικῇ λόγου. Hipp. *Loc. Hom.* 2.1 (39 Joly).

Ἀπλῶς δὲ Ἱπποκράτης ἔφη, ἀρχὴ τοῦ ἐν ἱατρικῇ λόγου ἡ φύσις πρῶτον.
Pseudo-Galen 2.1 (4 Petit; 14.677 K.)

Here, we move from the ‘nature of the body’ to ‘nature’ in general.²³ On aphorisms, therefore: some are cited but re-cast, simplified, while others are not cited but substantially are given. To back this up, we find that we are able to glean nothing from them to help establish the Hippocratic text.

Finally I should like to draw attention to the existence of spurious quotations, if I may express it thus. While the author refers to Hippocrates, the relevant lines in the *Hippocratic Corpus* cannot be identified with accuracy for lack of the specialised vocabulary which

²² Pseudo-Galen, *Introd. s. medic.* 11.1 (30-31 Petit; 14.709 K.); see also Petit (2005b) 180 and 184 annex II.

²³ This is the ultimate stage in the phenomenon of simplification which took place in the teaching milieu, as described by Magdelaine (2004) 87-93 in her helpful synthesis of the aphoristic mode in medical literature.

would permit identification of source. And so we are dealing with a Hippocrates far removed, deformed or quoted in such an allusive way that the corresponding text cannot be located. Here, again, it is more appropriate to talk of reminiscences than of quotations. I refer the reader to the very detailed account provided by Dieter Irmer and Anargyros Anastassiou.²⁴

A few general remarks to finish my discussion of quotations from Hippocrates; I shall make a distinction between content and style the better to bring them together later. The relevant corpus is slight; the *Aphorisms*, *Nature of Man*, *Places in Man*, *Coan Prenotions*, *Regimen in Acute Diseases* (*Appendix*), *Epidemics 6*, *Breaths*, *The Art*. It should be noted first that this is not the same base as that of the pseudo-Galenic *Medical Definitions* (in which are found quotations from *Epidemics 1*, *Airs waters places*, *Sacred Disease*, *Nature of the Child*, and *Generation*). The trend is to assimilate these texts rather too glibly, by virtue of their partially comparable traditions – we should not forget that in Antiquity, this is not the case. A simple comparison of the Hippocratic material used reveals in fact that the texts are the products of different milieux. Nor does The Hippocratic base of the *Introduction* entirely overlap with Galen's; in the matter of the authenticity of the treatise *The Art*, Galen and the *Medical Definitions* can be opposed to the *Introduction*. The Hippocrates of some people is not precisely the Hippocrates of others, a matter of interest as regards texts which have been edited in the time-span of two to three centuries. Such lack of resolution invites a few questions: why this disparity? Should it be attributed to a difference in milieu, libraries, education? Is it a matter quite simply of errors in the *Introduction*? Or does it have something to do with the transmission of texts? Only a more systematic study of the pseudo-Galenic treatises can hope to provide anything approaching a satisfactory answer.

My next observation concerns form. In the *Introduction*, even when the name of Hippocrates is linked to a quotation or a borrowing, never is the treatise given a title. In the *Medical Definitions*, by contrast, or in Galen (often), the precise reference is to be found. This indicates for sure a difference in the material conditions surrounding the composition of these works. It is reasonable to suppose that the *Introduction* was not composed with the *Hippocratic Corpus* within reach. More seriously, as the Hippocratic text in places is deformed, even unrecognisable, we are entitled to ask if the *Introduction* is not

²⁴ Irmer & Anastassiou (2002 and 2006).

simply the account of notes taken during a lecture, but properly organised. To an extent, this would explain the distortions that occur when borrowings are made from Hippocrates, and it would also explain certain oddities liberally sprinkled throughout the text. Thus, the neuter form of *leneion* – hapax – instead of *lenos*, the ‘wine-press’ of Herophilos,²⁵ plus numerous instances of a startling condensation of meaning, rendering the text exceptionally difficult to understand, particularly in that part of the treatise that deals with surgery. Besides, the hypothesis of a lecture transcribed has the virtue of explaining how the treatise comes to be relatively so coherent, given the diversity of the subjects it addresses – a hypothesis reinforced by a number of supporting factors, if one follows the characteristics of the isagogic type as effected by Markus Asper,²⁶ as, for example, the presence of quotations from Homer. My own tendency consequently will be to favour this method in order to give an account both of the treatise’s birth and the way in which the *Hippocratic Corpus* is featured there. But I repeat that we are dealing only with a hypothesis, which must take into account the ancient tradition of text appropriation.

A last word on ways of quoting Hippocrates: the brevity of chosen quotations must be emphasised. With the exception of rather long quotation from *Nature of Man* and the two definitions of medicine, Pseudo-Galen used short sentences, of an aphoristic kind, and sometimes quotes from the *Aphorisms* themselves, albeit in condensed form (the aphorism on consumption is a case in point). In this, Pseudo-Galen is consistent with the totality of his text, whose governing principle is concision – a concision which he purposely underscores in Hippocrates, and which he makes his own not only in the quotations, but also everywhere else in his book. It is tempting to contrast Hippocrates, who, while praising the virtues of brevity, clarity and precision, while recognising the pedagogical value of the aphoristic form, adopts it the least possible and, on the contrary, seems always to be finding ways to expand thought in writing as much as he can.²⁷ But

²⁵ Pseudo-Galen, *Introd. s. medic.* 11.2 (31 Petit; 14.710 K.).

²⁶ Asper (1998) 318-323.

²⁷ Thivel, *Cnide et Cos?* (1981) 150 underlines opportunely the two faces of aphorisms, instrument of instruction (mnemotechnique) and ambiguous, therefore polysemic form of expression. It allows ‘the expression of knowledge in all its contradictions’. In Pseudo-Galen, it is above all the first of these faces which meets the eye. Galen praises Hippocrates’s concision and the usefulness of brief forms in teaching. Thus he links with Demetrios, *On Style* 7, though the latter is less enthusiastic about the same text of Hippocrates (the first Aphorism), and speaks of the ‘dryness’ of its style.

the testimony of Galen serves to bring into focus certain means of transmitting medical knowledge, whose practical usefulness he acknowledges:

τό τε γὰρ ἀφοριστικὸν εἶδος τῆς διδασκαλίας, ὅπερ ἐστὶ τὸ διὰ βραχυτάτων ἅπαντα τὰ τοῦ πράγματος ἰδία περιορίζειν, χρησιμώτατον τῷ βουλομένῳ μακρὰν τέχνην διδάξαι ἐν χρόνῳ βραχεῖ [...] χρήσιμον δὲ τὸ καταλιπεῖν συγγράμματα καὶ μάλιστα τὰ σύντομά τε καὶ ἀφοριστικά· εἷς τε γὰρ αὐτὴν τὴν πρώτην μάθησιν καὶ εἰς τὴν ὧν ἔμαθέ τις ὠφεληθῆναι μνήμην καὶ εἰς τὴν ὧν ἐπελάθετό τις μετὰ ταῦτα ἀνάμνησιν ὁ τοιοῦτος τρόπος τῆς διδασκαλίας ἐπιτήδειος. Galen, *In Hipp. Aph. comment.* 1 (17b.351-355 K.)

This type of text probably was commonplace, and if the *Introduction* in strict terms cannot be compared, it is clear that it belongs to the general family of works aimed at beginners or else at more advanced doctors wishing to refresh their memories or to keep up to scratch.

Does Pseudo-Galen have historical value?

These remarks, necessarily incomplete, lead us naturally to ask questions about Pseudo-Galen's methodology (if there is one), and on the conditions in which the *Introduction* made its appearance. As has already been emphasised, the use made of the *Hippocratic Corpus* may be considered a paradigm for the study of Pseudo-Galen's sources and the composition of the work. Besides the matter of determining if the *Introduction* is a compilation or the product of oral teaching, the fact that Pseudo-Galen and Galen occasionally are in agreement on the letter of the text (with the reservations expressed above) and in opposition to the direct tradition of Hippocrates poses a few unavoidable questions. Do Galen and Pseudo-Galen descend from a shared written tradition? If the answer is yes, is it a matter simply of a shared scholarly climate, or should we consider that the two authors' texts were made uniform in the manuscripts at some (relatively) early date? According to what we know currently about the global transmission of Galen's oeuvre, this last proposition is not likely; moreover, we do not know in which period the pseudo-Galenic texts were incorporated into the corpus. Might a harmonisation of this kind have occurred later, within the printed tradition, for example when the Aldine was being prepared, or perhaps during the time of the René Chartier? Such a hypothesis fits better the image we have of the history

of Galenic material, but additional research is required. Another possibility: could Pseudo-Galen have obtained its information from Galen himself? In that case, what are we to make of the dating of *Introduction*? This is a thorny question; the dating of the treatise is not as firmly established as we might wish. Even if, with the help of the names of doctors quoted and of the general context of the text, we find it difficult to believe categorically that the *Introduction* is of later date than Galen, there remains a margin of uncertainty.²⁸ The earliest documents of relevance are a partial translation from the fifth or sixth centuries AD,²⁹ and some texts originating from Alexandria. They have come down to us only in Arabic, and appear to have borrowed from the *Introduction*, as well as elsewhere. The possibility of this relationship has been brought to light recently by Peter Pormann.³⁰ We have only these markers to help us locate a *terminus*, which happens to be the second Alexandrian School. The hypothesis of Galen used by Pseudo-Galen is not compatible with the hypothesis of lecture notes made ready for publication – unless the lectures were by Galen himself, or of more recent lectures based on Galen. But in that case, the incontrovertible doctrinal divergences that exist become a real problem. Ultimately, the Hippocrates of Pseudo-Galen can only derive from notes made after a lecture, or else from a written source which itself has been shortened and distorted. It remains that it is a Hippocrates consisting of simple turns of phrase, easy to memorise, a Hippocrates for the catechism. The precise origins of such a catechism cannot be tracked down, but its formulation in the *Introduction* reveals the way in which the body of texts in the *Corpus* could be condensed and simplified, sometimes rewritten, for the benefit of the uninitiated – perhaps students, perhaps a wider readership.³¹

If these conclusions are extended to include the ensemble of authors or opinions cited in the *Introduction*, we may then ask questions about the deep worth of Pseudo-Galen's reflection of the history of medicine

²⁸ Petit (2009) xxxvi-li.

²⁹ See Petit (2007).

³⁰ Pormann (2003) 240 and (2004) 26.

³¹ Once again, it is impossible to know whether the readership intended by the author of the *Introduction* was made up simply of students. The breadth of usefulness revealed by Galen regarding collections of aphorisms holds good probably for the *Introduction*. In any event, a few centuries later, a Greek mediaeval prologue added at the head of the treatise in certain manuscripts promoted its value for students, τοῖς εἰσαγομένοις, in terms calling to mind the first lines of the *Medical Definitions*, referred to in note 4 above; see Petit (2009) lxix-lxx and lxxx-lxxxi.

in general. If Hippocrates is known and cited at second hand, so are the others. We must therefore turn back to Pseudo-Galen whenever we encounter no parallel, as most frequently prevails, but do so circumspectly with regard to the letter of the text. Such prudence holds good for the editing and interpretation of the diverse authors for whom Pseudo-Galen at times is either the only source or the earliest (Diocles, Herophilus, Erasistratus, to name but the best known).

In any event – and this will be my conclusion – the presence of Hippocrates in the *Introduction* allows us to appreciate the sheer diversity of the shapes and forms in which Hippocrates and Hippocratic thinking were available during the Roman era. On one side, the complexity of Galenic teaching (the quest for the authentic text, for the right reading, the explication of texts, a critical eye); on the other, the obligatory creation of systems in the so-called ‘isagogic’ works. In this last category, Hippocrates has become merely a quasi-legendary figure accompanied by teaching that has been boiled down to a series of maxims, bald propositions, none needing explication – basic Hippocrates to be learned by heart. Perhaps this watered-down, transparent Hippocrates is in line with the early days of medical teaching, a preliminary stage before the more in-depth formal classes concerned with particular texts – a progressive method to which Galen himself appears to allude in his commentary on the *Aphorisms*. But doubtless it also reveals that there existed in the Roman world a plural medical pedagogy, or, put differently, a two-speed system. The lengthy years of required study of such as Galen, a privileged minority, trained to read Hippocrates in a critical way and to comment on him, and the more rapid studies of ordinary students, orientated more to the practical than to study. A simplified, second-hand Hippocrates transmitted by Pseudo-Galen of the *Introduction* was quite probably the one known by Galen’s contemporaries, whether or not doctors/medical practitioners. Viewed in this way, the *Introduction* bears unique and indispensable witness to the transmission of medical knowledge during the Roman era.

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Some Remarks by Galen about the Teaching and Studying of Medicine¹

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Summary

Galen is extremely valuable as a source for the history of medicine because of the amount of information that he provides about the teaching and the study of this discipline – both in by-gone eras and in his own days.

For my contribution I have chosen a few examples of what has seemed most significant to me. Generally speaking, I have focused on two lexical families: that of διδάσκαλος and that of μανθάνω, this being an area that I had dealt with in part before.²

1. Hippocratic medicine

I shall make brief mention of the importance of Hippocratic medicine in Galen's medical education. In the following, I shall focus, as far as

¹ Translation Christine Salazar, Cambridge. This paper belongs to the Project HUM2006-08548 granted by the Spanish Ministry of Education and Science. (The translations into Spanish of the Galenic passages were my own, – word-for-word as far as possible. I am most grateful to Christine Salazar for her English translation and all her remarks). I have confined myself to the data available in the *TLG* (*Thesaurus Linguae Graecae*; 32, 2000), selecting the most relevant Greek texts. I have also consulted J. Gippert, *Index Galenicus*, Dettelbach, J.A. Röhl, 1997. It is doubtless an important tool for any lexical study that one might want to perform on Galen, although it presents undeniable difficulties because of the philological method followed by the author. I thank the colleagues who have provided clarifications or comments at the Leiden conference, especially Profs. Bruni Celli, Craik, Demont, Fausti, Horstmannshoff, Jouanna, Lami, Pormann and Roselli.

² Cf. López Férez (2003). According to the *TLG*, there are about two thousand occurrences of the former, and almost two thousand five hundred of the latter. Along with my 2002 publication on the vocabulary of education in the Hippocratic treatises, my other contributions on education cited in the bibliography may also be of interest to the reader.

possible, on Galen's references to the teaching and studying of medicine in his own day.

a. The Pergamene physician gives a positive verdict on the teaching of Hippocrates, and highlights the importance of the universal in the Hippocratic writings. Let us look at a few examples among many: 'This passage, too, has the combination of many symptoms that do not present themselves together in every sick person, so that things written in this way are also useless, while useful teaching occurs by means of the universal, as Hippocrates is wont to do.'³ 'It has also been said by me earlier that the teaching of medical theory is undertaken by Hippocrates by means of the universals in all the genuine books, at times discussing some particular cases in order to give an example and for the clear knowledge of those who are learning.'⁴

In effect, as we shall see below, our author attributed great importance to the teaching and studying of the universals in the framework of medical studies.

b. However, Galen states that this rule does not apply in *Prognostic*: 'As for the teaching undertaken by the man who wrote the *Prognostic*, it has already been shown many times that it does not contain the universal, except on rare occasions; the exact explanation according to

³ Galen, *In Hipp. Vict. Rat. in Morb. Acut. comment.* 4.70 (15.841.13 K.): Καὶ αὕτη πάλιν ἡ ῥῆσις ἐπιπλοκὴν ἔχει συμπτωμάτων πολλῶν οὐ συγγινομένων ἐν ἅπαντι ἀνθρώπῳ νοσοῦντι, διὸ καὶ ἄχρηστα τὰ οὕτως γραφόμενα, τῆς χρησίμου διδασκαλίας διὰ τῶν καθόλου γινομένης, ὡς <Ἱπποκράτης> εἴωθε ποιεῖν. In this case, as in many others, the interpretation of the term διδασκαλία depends to a large extent on the context. Essentially, we are moving between two meanings: a) 'teaching, instruction', that is to say, the term considered as something active, with more or less obvious references to the master-pupil relationship; b) 'doctrine', that is, the doctrinal corpus as it is transmitted, containing polemics and the acceptance or refutation of certain contents, but in which this intimate relationship between the master and his followers is not yet present. Among the numerous adjectives used by Galen to qualify διδασκαλία, we find, on three occasions, χρήσιμος: 'useful, convenient'. Apart from the passage quoted above, it occurs also at 2.19.20 and 13.365.16. Otherwise, in 563 passages, Galen uses the adverb καθόλου, 'in general' and thence 'universally', often nominalized, as 'the universal', as in the example in footnote 5.

⁴ Galen, *In Hipp. Prorrhet. comment.* 3.101 (16.723.8 K.): Εἴρηται μοι καὶ πρόσθεν ὡς ἡ διδασκαλία τῆς ἱατρικῆς θεωρίας ὅφ' <Ἱπποκράτους> διὰ τῶν καθόλου γέγονεν ἐν ἅπασιν τοῖς γνησίοις βιβλίοις προχειριζομένου ποτὲ καὶ τῶν κατὰ μέρος ἔνια παραδείγματος ἕνεκα πρὸς σαφήνειαν τῶν μανθανόντων. Note, in this passage, the correlation between the act of 'teaching' (διδασκαλία) and those who are 'learning' (μανθανόντων).

particular elements, as is written regarding the sick in the *Epidemics*, also being absent ...'.⁵ Nevertheless, Galen remarks that even within this treatise there are some exceptions: 'And yet, in what regards the days, there is some teaching of the universal in *Prognostic*.'⁶

c. Our author wants to bring clarity to certain Hippocratic writings which, according to him, contain a somewhat confused or obscure 'teaching' or 'doctrine'. In some cases the Pergamene goes out of his way to avoid referring to himself: 'However, for one who has learned from him (*sc.* Hippocrates) in a distorted and disordered way and has dedicated his entire life to practice based on the works, it is not impossible to add clarity and order to his teaching. And, if it were possible to do so using many books, it is clear how great the perfection of the clarity of the things that are taught will be.'⁷

Generally, he is more direct and incisive: 'But we, striving by means of clear instruction to teach what has been said by him in an unclear manner, shall begin the explanation.'⁸ And elsewhere: 'Now, therefore

⁵ Galen, *In Hipp. Prorrh. comment.* 3.101 (16.724.3 K.): ἡ δ' ὑπὸ τοῦ τὸ Προρρητικὸν γράψαντος ἀνδρὸς γενομένη διδασκαλία δέδεικται μὲν ἤδη πολλάκις οὐκ ἔχουσα τὸ καθόλου, πλὴν εἴ που σπανίως, ἀπολειπομένη δὲ καὶ τῆς τῶν κατὰ μέρος ἀκριβοῦς διηγήσεως, ὅποια γέγραπται κατὰ τοὺς ἐν τοῖς τῶν Ἐπιδημιῶν ἀρρώστους...

⁶ Galen, *In Hipp. Prorrh. comment.* 3.129 (16.789.8 K.): καίτοι τὰ περὶ τῶν ἡμερῶν καθόλου διδασκαλίαν ἔσχεν ἐν τῷ Προγνωστικῷ.

⁷ Galen, *In Hipp. Vict. Rat. in Morb. Acut. comment.* 2.36 (15.584.2 K.): τῷ δὲ παρ' αὐτοῦ μὲν αὐτὰ μαθόντι διεστραμμένως τε καὶ ἀτάκτως ὅλον τε τὸν ἑαυτοῦ βίον ἀναθέντι πρὸς τὴν ἐξ ἔργων ἄσκησιν διδαχθεῖσαν οὐκ ἀδύνατον καὶ σαφήνειαν καὶ τάξιν τῇ διδασκαλίᾳ προσθεῖναι. ἐὰν δὲ καὶ διὰ πλειόνων βιβλίων ὑπάρξη τοῦτο πράξει, δῆλόν ἐστι, πόση γίνεται τῆς σαφηνείας τῶν διδασκομένων ὑπερβολή. This passage would merit a more extensive discussion than can be afforded to it now. Note that Galen states that it is possible to provide σαφήνεια (with which he depicts, and opposes, that which is expressed by διεστραμμένως, i.e. 'in a distorted, twisted way'. The adverb is late: *LSJ* records it from the Septuagint and Heliodorus onwards. Galen uses it only in this one place.) and τάξις (referred to by the adverb ἀτάκτως). Galen frequently uses the noun σαφήνεια, 'clarity' (97 times). The adjective σαφής, 'clear, evident, certain', in turn, qualifies διδασκαλία in six other contexts: 1.238.9 K.; 5.762.8 K.; 6.579.10 K.; 7.755.4 K.; 909.15 K.; 16.558.5 K. On the use of σαφήνεια in our author, cf. López Férez (1994). As far as the stylistic aspect is concerned, we draw the reader's attention to the convergence of four terms referring to teaching and learning: μαθόντι-διδαχθεῖσαν-διδασκαλία-διδασκομένων.

⁸ Galen, *In Hipp. Prorrh. comment.* 1.22 (16.558.6 K.): ἀλλ' ἡμεῖς σπουδάζοντες ἐν σαφεῖ διδασκαλίᾳ τὰ πρὸς αὐτοῦ ἀσαφῶς εἰρημένα διδάξαι τῆς ἐξηγήσεως ἐφαψόμεθα. Note the double juxtaposition: σαφεῖ-ἀσαφῶς, διδασκαλία-διδάξαι. As pointed out in the preceding footnote, the adjective σαφής, 'clear, evident, certain', qualifies διδασκαλία in six other passages.

I always specify the things that are said vaguely in the book and that will therefore mislead those who read them. Teaching that is not specified by the commentators misleads the young more than it benefits them; for they believe that it is the virtue of the commentary to agree in every way with what is written, even if it is evidently wrong. And if they do this readily in the obvious cases, truth matters even less to them in the obscure ones.⁹

d. Both because of their content and because of their particular formal structure, the *Aphorisms* have a special place in Galen's commentaries on the subject of teaching. Let us look at some examples: 'Moreover, those who say that the cause of either the way of teaching or of the use of the writings altogether is explained in the proem, seem to me to have better knowledge than the others. For the aphoristic form of teaching, which is to define by the briefest words all that is peculiar to the matter, is most useful for one who wants to teach a long art in a short time'.¹⁰ 'And it is useful to leave behind writings, especially concise and aphoristic ones; for this form of teaching is useful for the first act of learning and for the remembering of what one has learnt to one's benefit and for the recollection, after this, of what one has forgotten.'¹¹ 'Now, Hippocrates, after he had set out in that book (*sc.* the *Aphorisms*) to make the teaching concise and aphoristic, did not recount his

⁹ Galen, *In Hipp. Prorrh. comment.* 2.36 (16.589.2 K.): ἐγὼ μὲν οὖν αἰὲν προσδιορίζομαι τὰ κατὰ τὸ βιβλίον ἀδιορίστως εἰρημένα καὶ διὰ τοῦτο μέλλοντα βλάψαι τοὺς ἀναγινώσκοντας αὐτά· τοῖς δ' ἐξηγηταῖς ἀδιορίστος ἡ διδασκαλία γιγνομένη βλάπτει μᾶλλον ἢ ὠφελεῖ τοὺς νέους· ἀρετὴν γὰρ ἐξηγήσεως νομίζουσιν εἶναι συναγορεύειν τοῖς γεγραμμένοις ἐξ ἅπαντος τρόπου, κἂν προφανῶς ὑπάρχη ψευδῆ. ὅπου δὲ τοῦτο πράττουσιν ἐτοίμως ἐπὶ τῶν προφανῶν, πολὺ δῆπου μᾶλλον ἐπὶ τῶν ἀφανῶν οὐδὲν αὐτοῖς μέλει τῆς ἀληθείας.

¹⁰ Galen, *In Hipp. Aph. comment.* 1.1 (17b.351.15 K.): ὅσοι τοίνυν ἢ τοῦ τρόπου τῆς διδασκαλίας ἢ ὅλως τῆς χρείας τῶν συγγραμμάτων αἰτίαν ἀποδίδοσθαι κατὰ τὸ προοίμιόν φασιν, οὗτοί μοι δοκοῦσιν ἄμεινόν τι τῶν ἄλλων γινώσκειν. τό τε γὰρ ἀφοριστικὸν εἶδος τῆς διδασκαλίας, ὅπερ ἐστὶ τὸ διὰ βραχυτάτων ἅπαντα τὰ τοῦ πράγματος ἰδία περιορίζειν, χρησιμώτατον τῷ βουλομένῳ μακρὰν τέχνην διδάξαι ἐν χρόνῳ βραχεῖ. Note, both in this example and in the following, the expression τρόπος τῆς διδασκαλίας, and also the phrase τὸ εἶδος τῆς διδασκαλίας, which we shall encounter again below.

¹¹ Galen, *In Hipp. Aph. comment.* 1.1 (17b.355.10 K.): χρήσιμον δὲ τὸ καταλιπεῖν συγγράμματα καὶ μάλιστα τὰ σύντομά τε καὶ ἀφοριστικά· εἷς τε γὰρ αὐτὴν τὴν πρώτην μάθησιν καὶ εἰς τὴν ὧν ἐμαθὲ τις ὠφελήθηται μνήμην καὶ εἰς τὴν ὧν ἐπελάθετό τις μετὰ ταῦτα ἀνάμνησιν ὁ τοιοῦτος τρόπος τῆς διδασκαλίας ἐπιτήδειος. Let me emphasize the correlation μάθησιν-διδασκαλία ('learning'-'teaching').

discourse as I do now ...'.¹² 'In the earlier aphorisms, there was teaching about the "how much" in relation to regimen and now the "how" is treated, teaching many, and useful, things relating to the art in a very short discourse.'¹³ 'Given that the kind of teaching here is aphoristic, and takes place with the utmost brevity, ...'.¹⁴

Despite all the advantages of the aphoristic genre, Galen finds fault with a few omissions: 'It would perhaps have been appropriate in aphoristic instructions to have said in a fairly succinct way that all injurious secretions that are excreted well come to a good conclusion, but Hippocrates did not do so ...'.¹⁵

e. In the odd passage our author states that certain Hippocratic teachings had no validity in his own times. This is the case regarding sleep and the appropriate hours for it: 'At the time <of Hippocrates>, being according to nature was not one thing and custom another, but now the rich do this – in other matters as well as in what regards sleep – sleeping by day and being awake by night. Now, regarding those who are accustomed to live against nature, the teaching pronounced by <Hippocrates> is not true. For in these present days, habit is stronger than nature, not only in the case of rich women, but already also in the case of not few of the men.'¹⁶

¹² Galen, *In Hipp. Aph. comment.* 1.14 (17b.412.7 K.): ὁ τοίνυν Ἱπποκράτης ἐπειδὴ προῦκειτο κατὰ τὸδε τὸ βιβλίον αὐτῷ σύντομόν τε καὶ ἀφοριστικὴν ποιεῖσθαι τὴν διδασκαλίαν, οὐχ οὕτως διήλθεν τὸν λόγον ὡς ἐγὼ νῦν... We find the adjective σύντομος, 'concise, brief', referring to διδασκαλία, on six more occasions: 1.83.14 K.; 546.4 K.; 7.755.4 K.; 8.237.17 K.; 15.755.3 K.; 16.558.5. In two passages, the qualifier ἀφοριστική refers to it: 17b.726.1 and 876.16 K.

¹³ Galen, *In Hipp. Aph. comment.* 1.16 (17b.425.16 K.): Ἐν μὲν τοῖς ἔμπροσθεν ἀφορισμοῖς περὶ τοῦ κατὰ τὴν δίαίταν ποσοῦ τὴν διδασκαλίαν ἐποίησατο, νυνὶ δὲ περὶ τοῦ ποιοῦ διεξέρχεται, πολλὰ καὶ χρήσιμα τῶν κατὰ τὴν τέχνην ἐν βραχυτάτῳ διδάσκων λόγῳ. NB the correspondence διδασκαλία-διδάσκω.

¹⁴ Galen, *In Hipp. Aph. comment.* 2.28 (17b.518.10 K.): ἐπεὶ δ' ἀφοριστικόν ἐστι τὸ τῆς διδασκαλίας εἶδος ἐνταῦθα καὶ κατὰ βραχυλογίαν ἄκραν γινόμενον... Here we find the phrase τὸ τῆς διδασκαλίας εἶδος (cf. note 10).

¹⁵ Galen, *In Hipp. Aph. comment.* 4.47 (17b.726.1 K.): Ἦν μὲν ἴσως πρέπον ἀφοριστικῇ διδασκαλίᾳ συντομώτερον εἰρῆσθαι πάσας τὰς πονηρὰς ἐκκρίσεις καλῶς ἀποχωρούσας εἰς ἀγαθὸν τελευτᾶν, ὁ δὲ Ἱπποκράτης οὐχ οὕτως ἐποίησεν...

¹⁶ Galen, *In Hipp. Progn. comment.* 2.11 (18b.129.12 K.): ἀλλ' ἐπὶ τῶν <Ἱπποκράτους> χρόνων οὐκ ἄλλο μὲν ἦν τὸ κατὰ φύσιν, ἄλλα δὲ τὰ ἔθνη, νυνὶ δὲ ἔμπαλιν οἱ πλούσιοι δρῶσιν ἐν ἄλλοις τέ τισι καὶ κατὰ τοὺς ὕπνους, τῆς μὲν ἡμέρας κοιμώμενοι, νύκτωρ δὲ ἐγρηγορότερες. ἐπὶ τούτων οὖν ὡς ἂν παρὰ φύσιν εἰθισμένων ζῆν οὐκ ἀληθὴς ἐστὶν ἡ εἰρημένη πρὸς <Ἱπποκράτους> διδασκαλία. κυριώτερον γὰρ ἔν γε τοῖς νῦν χρόνοις ἐστὶ τὸ ἔθος τῆς φύσεως, οὐκ ἐπὶ τῶν πλουσίων γυναικῶν μόνον, ἀλλ' ἤδη καὶ ἀνδρῶν οὐκ

2. Critical remarks on some earlier doctors

I shall present only a few examples from the abundant material on offer in our author. I have chosen to mention the physicians of the first century AD, whose disciples and doctrines were still around in Galen's time.

a. Galen expatiates about Archigenes, in particular about his books *The Appropriate Moments in Diseases*, and makes an effort to demonstrate that he did not in any way surpass what Hippocrates had written: 'You will understand clearly what I am saying, having examined these two points with precision: One is, whether what has been said by me now throughout this whole book has been most useful for treatment and prognosis. The other point is, if anything has been said by Archigenes. For if nothing is lacking from these things, it is manifest that he is saying different things, and he offends doubly – by not teaching what is useful, and by burdening those reading his books by loquacity about useless things.'¹⁷

ολίγων. Here, Galen is commenting on a Hippocratic passage, namely *Prog.* 10 (2.134.5-12 K.): 'Regarding sleep, such as it is habitual to us by nature: by day one must be awake, and by night one must sleep. If this were changed, it would be fairly bad.' (Περὶ δὲ ὕπνων, ὥσπερ κατὰ φύσιν ξύνηθες ἡμῖν ἐστὶ, τὴν μὲν ἡμέρην ἐγρηγορέναί χρῆναι, τὴν δὲ νύκτα καθεύδειν. "Ὡς δὲ εἴη τοῦτο μεταβεβλημένον, κάκιον).

¹⁷ Galen, *De totius morbi temp.* 8 (7.462.6 K.): μαθήσῃ δ' ἐναργῶς ὃ λέγω, δύο ταῦτ' ἐξετάσας ἀκριβῶς· ἓν μὲν, εἰ ταυτὶ τὰ νῦν ὑφ' ἡμῶν εἰρημένα δι' ὅλου τούτου τοῦ βιβλίου χρησιμώτατά ἐστιν εἰς θεραπείαν καὶ πρόγνωσιν· ἕτερον δ', εἰ λέλεκται τι πρὸς Ἀρχιγένους, εἰ γὰρ μηδενὸς ἐλλείποντος τοῖσδε φαίνεται λέγων ἕτερα, διττῶς πλημμελεῖ, μήτε τὰ χρήσιμα διδάσκων, βαρύνων τε τῇ τῶν ἀχρήστων πολυλογίᾳ τοὺς ἀναγινώσκοντας αὐτοῦ τὰ βιβλία. In this passage, our author criticizes two points: not teaching useful things (μήτε τὰ χρήσιμα διδάσκων) and the frequent use of useless terminology (τῇ τῶν ἀχρήστων πολυλογίᾳ) that burdens the readers of his books. (The noun πολυλογία, 'loquacity, logorrhea', appears in Xenophon (2), Plato (1) and Aristotle (1); Galen employs it on nine occasions). Archigenes of Apamea, a physician with Eclectic tendencies, and an advocate of Pneumatist theories, lived at the time of Trajan (first century AD). A prolific author, he wrote eleven books of letters (8.150.6 K.), ten on the meaning of fevers, three about the affected places: *De loc. aff.* (9.670.12 K.), two on the moments in diseases, appropriate..., one on the administration of hellebore, others on pulse lore, etc. The following passage may cast some light on Galen's interest in getting to know new or flashy theories. *De loc. aff.* 3.5 (8.148.12 K.): 'Having found out that a book had been written by Archigenes in which he explains the recuperation of damaged memory, I straightaway scoured all the libraries and all the booksellers and all the doctors whom I knew to be interested in the writings of the man, preferring to avail myself of the book, so that it might help me towards finding

One more attack against the absurd words employed by Archigenes: 'Now, all these (*sc.* words) have been said and are clear and known to all the physicians before Archigenes, and are taught without outlandish names. However, what is specific and peculiar to the teaching of Archigenes is not the indication of new matters, but that of names that do not reveal any matter.'¹⁸

Again the Pergamene criticizes the use of language by Archigenes, who, in his book about pulse lore, states that there is no magnitude that corresponds to the small one: 'Neither being able to attack him for this – i.e. that it is not well said – nor wanting to trouble at an inopportune moment those learning for the first time by teaching them that 'magnitude' belongs to the homonyms and to those terms that are said in two ways, I deem that it had to be said more correctly that many differences in the pulses consist in relation to the quantity of the distension.'¹⁹

remedies, not the affected place.' (πυθόμενος τῷ Ἀρχιγένει τι γεγράφθαι βιβλίον, ἔνθα διδάσκει μνήμης βεβλαμμένης ἀνάκτησιν, εὐθέως περιήλθον ἀπάσας μὲν τὰς βιβλιοθήκας, ἅπαντας δὲ τοὺς βιβλιοπώλας, ἅπαντας δ' οὓς ᾗδειν ἰατροὺς ἐσπουδακότας περὶ τὰ συγγράμματα τάνδρως, εὐπορήσαι τοῦ βιβλίου προηρημένος, ὅπως μοί τι συντελέσειεν πρὸς τὴν τῶν βοηθημάτων εὔρεσιν, οὐ τοῦ τόπου τοῦ πεπονθότος). Note, as on many other occasions, the hyperbole, here accompanied by anaphora: 'all... , all... , all... '.

¹⁸ Galen, *De loc. aff.* 2.9 (8.119.13 K.): πάντα μὲν οὖν τὰ τοιαῦτα καὶ ῥητὰ καὶ σαφῆ καὶ γνώριμα πᾶσι τοῖς πρὸ Ἀρχιγένους ἰατροῖς ἐστίν, ἄνευ τῶν ἄλλοκότων ὀνομάτων διδασκόμενα· τῆς δ' Ἀρχιγένους διδασκαλίας ἴδιον ἐξαίρετόν ἐστιν οὐ πραγμάτων ὑφήγησις καὶ κινήσεων, ἀλλ' ὀνομάτων οὐδὲν πρᾶγμα δηλούντων. On this occasion, Galen uses a rarely used specialist term (ὑφήγησις, 'guide, counsel, indication'), which we find for the first time in the Hippocratics (1) and next in Demosthenes (1), Polybius (1), Plutarch (1), etc. Galen uses it on five occasions: For example, he speaks of the 'guide' to the cure (8.40.10 K.), to matters (8.32.18 K.), etc. At 19.11.8 K., he refers to 'introductions, or synopses or indications' (εἰσαγωγὰς ἢ συνόψεις ἢ ὑφηγήσεις).

¹⁹ Galen, *De diff. puls.* 2.6 (8.597.13 K.): ταῦτ' ἐγὼ μίτε διαβάλλειν ἔχων, ὥς οὐκ ὀρθῶς εἰρημένα, μίτε παρὰ καιρὸν ταραττεῖν βουλόμενος τοὺς πρῶτον μαθητὰς, ἐν τῷ διδάσκειν αὐτοὺς, ὅτι τῶν ὁμωνύμων τε καὶ διχῶς λεγομένων τὸ μέγεθός ἐστιν, ὀρθότερον ἐνόμισα λέγειν δεῖν, κατὰ τὸ ποσὸν τῆς διαστολῆς συνίστασθαι πολλὰς διαφορὰς σφυγμῶν. In various passages, Galen highlights the confusion of those beginning their medical studies when faced with the *recherche* or inappropriate terms used by certain masters.

b. Thessalus²⁰ is another one of those who attract our author's harsh criticism. Indeed, having said that among the Getae, Tibii, Phrygians and Thracians not those are most famous who have the best command of the art of medicine, but those who are most adept at flattery, Galen adds: 'Having understood this, that man Thessalus not only flattered the rich in Rome in other respects, but he also easily found large numbers of pupils by promising to teach the art in six months. For if those who are to be physicians need neither geometry nor astronomy, dialectics or music, nor any other of the beautiful disciplines, as the most noble Thessalus promised, but do not even require at least long experience and familiarity with the works of the art, it is ready to access for everyone who wants to become a physician easily. Therefore, cobblers, carpenters, dyers and coppersmiths are already rushing at the works of medicine, abandoning their ancient arts.'²¹

On another occasion, in commenting on the aphorism 'Life is short, but the art is long.', Galen alludes to Thessalus without mentioning him directly: 'If having removed all the factors that are falsely assumed to profit the art, we look only at the commonalities, medicine is no longer long, nor difficult, but extremely easy and clear, and it can be known in its entirety [most quickly] in six months. So, in the case of the diseases related to regimen, they are simply altogether identified as constriction – likewise also in the matters relating to surgery and to medicamentation. For also in these, in general, they attempt to discover some commonalities, and propose to themselves aims for the remedies, few in number, so that it seems to me that their entire art can be learnt completely not in the notorious six months, but

²⁰ Thessalus of Tralles, a physician of the Neronian period, followed Methodist principles in his medical practice. He wrote numerous books advocating a thorough simplification of medical knowledge, to the point of promising his followers to teach them the art of medicine in six months (10.4.1 K.). Galen considered him the founder of the Methodist school, and accused him of having stated that the earlier physicians had not said anything worth mentioning and that the legacy of Hippocrates was harmful (10.8.9 K.). Cf. López Férez 1991, 196-199.

²¹ Galen, *De meth. med.* 1.1 (10.5.2 K.): καὶ τοῦτο κατανοήσας ὁ Θεσσαλὸς ἐκεῖνος οὐ τὰ ἄλλα μόνον ἐκολάκευε τοὺς ἐπὶ τῆς Ῥώμης πλουσίους, ἀλλὰ καὶ τῷ μῆσιν ἕξ ἐπαγγείλασθαι διδάξειν τὴν τέχνην ἐτοίμως ἐλάμβανε μαθητὰς παμπόλλους. εἰ γὰρ οὔτε γεωμετρίας οὔτε ἀστρονομίας οὔτε διαλεκτικῆς οὔτε μουσικῆς οὔτε ἄλλου τινὸς μαθήματος τῶν καλῶν οἱ μέλλοντες ἰατροὶ γενήσεσθαι δέονται, καθάπερ ὁ γενναιοτάτος ἐπηγγείλατο Θεσσαλὸς, ἀλλ' οὐδὲ μακρᾶς ἐμπειρίας χρῆζουσιν καὶ συνηθείας τῶν ἔργων τῆς τέχνης, ἕτοιμον ἤδη προσιέναι παντὶ γενησομένῳ ῥαδίως ἰατρῷ. διὰ τοῦτο καὶ σκυτοτόμοι καὶ τέκτονες καὶ βαφεῖς καὶ χαλκεῖς ἐπιπηδῶσιν ἤδη τοῖς ἔργοις τῆς ἱατρικῆς, τὰς ἀρχαίας αὐτῶν ἀπολιπόντες τέχνας.

even much faster. And one must thank them thus for their abridged teaching, if they are not lying; but if they are lying, one must accuse them of negligence.²²

The following passage shows the contempt in which Galen held the followers of Thessalus: ‘We, together with those who are both trained in following a demonstration and by nature intelligent – for we do not promise to teach the asses of Thessalus – go towards the matter before us from the beginning, explaining forthwith, at the same time as the teaching of the therapeutic method, the causes from which most of the doctors failed who were attempting to discover it.’²³

3. Contemporary Alexandrian physicians

They have our author’s approval. Thus, with regards to human bones, Galen refers to osteologies or ‘skeletons’²⁴ written by others: ‘You need

²² Galen, *De sectis* 6 (1.83.13 K.): ἀφαιρεθέντων γὰρ πάντων τῶν ψευδῶς ὑπειλημμένων τὴν τέχνην ὠφελεῖν καὶ πρὸς μόνας τὰς κοινότητας ἀποβλεπόντων ἡμῶν οὔτε μακρὰν ἔτι τὴν ἱατρικὴν οὔτε χαλεπὴν εἶναι, ῥάστην δὲ καὶ σαφὴ καὶ μῆσιν ἔξ ὅλην [τάχιστα] γνωσθῆναι δυναμένην. οὕτω μὲν γὰρ ἐπὶ τῶν κατὰ δίαιταν νοσημάτων εἰς στενὸν κομιδῇ συνῆκται τὸ πᾶν ὡσαύτως δὲ καὶ πὶ τῶν κατὰ χειρουργίαν τε καὶ φαρμακείαν. καὶ γὰρ ἐν ἐκείνοις καθόλου τινὰς κοινότητας ἐξευρίσκειν πειρῶνται καὶ σκοποῦς ὑποτίθενται τῶν ἰαμάτων ὀλίγους τὸν ἀριθμὸν, ὥστ’ ἐμοὶ μὲν δοκεῖν οὐδ’ ἐν τοῖς πολυθρυλήτοις ἔξ μῆσιν ἀλλὰ καὶ πολὺ θᾶττον ὅλην αὐτῶν τὴν τέχνην ἐκμαθεῖν ὑπῆρξεν, καὶ χρὴ χάριν οὕτω γινώσκειν αὐτοῖς τῆς συντόμου διδασκαλίας, εἴ γε μὴ ψεύδονται, ψευδομένοις δ’ ὀλιγωρίαν ἐγκαλεῖν. The term κοινότητες, ‘commonalities’, was used rather vaguely among the Methodists, given that they applied it to disease, treatment, the precise moment, as well as surgery (14.680-681 K.). Pseudo-Galen knows of three commonalities: the constricted, the relaxed and the mixed (τὸ στεγνὸν καὶ τὸ ὀρρώδες καὶ τὸ ἐπιπεπλεγμένον); 19.353.15 K.

²³ Galen, *De meth. med.* 1.4 (10.30.12 K.): Ἡμεῖς δὲ μετὰ τῶν ἡσκημένων τε ἅμα παρακολουθεῖν ἀποδείξει καὶ φύσει συνετῶν, οὐ γὰρ δὴ ὄνους Θεσσαλείους ἐπαγγελλόμεθα διδάσκειν, ἐπὶ τὸ προκείμενον ἔξ ἀρχῆς ἴωμεν, εὐθὺς ἅμα τῇ διδασκαλίᾳ τῆς θεραπευτικῆς μεθόδου καὶ ὧν ἐσφάλισαν οἱ πλείστοι τῶν ἱατρῶν ἐπιχειροῦσάντων ἐξευρεῖν αὐτὴν ἐξηγούμενοι τὰς αἰτίας. We find the disparaging expression ‘ass of Thessalus’, i.e. a follower or relation of Thessalus, also at 9.656.2 K.; 10.353.12 K.; 915.12 K.

²⁴ Galen, *De anat. admin.* 1.2 (2.220.7 K.): ἅ τινες μὲν ὀστολογίας ἐπιγράφουσιν, ἔνιοι δὲ σκελετοὺς ...

‘What some call osteologies and others skeletons...’.

Two words strongly attract our attention here: The term ὀστολογία can first be found in Diodorus Siculus (4.38.5), referring to the act of collecting bones. However, in the sense of a science that studies bones, or of a treatise that deals with this matter, it is a Galenic coinage, used in this passage only. The corresponding noun is older, appearing

to employ labour and effort, not only in order to learn thoroughly with accuracy, from the book, the form of each one of the bones, but also in order to make yourself an eager observer of human bones by means of the eyes. And in Alexandria this is altogether easier, inasmuch as the physicians in that location provide the teaching of these (*sc.* the bones) to the students together with the autopsy. And you have to try, if not for any other reason, then for this one alone, to spend time in Alexandria. If you cannot achieve this, it is not impossible even so to see human bones. I for my part have seen them very frequently, when either some graves or some monuments have been broken up ...²⁵

as the title of a lost play by Aeschylus (Ὀστολόγοι, *The Bone Collectors*; fragments. 179-80). Of equal importance is the noun σκελετός, which we encounter first as a noun with the meaning of 'skeleton' in Phrynicus (fr. 69.3). Galen uses it thirteen times, also referring to some who have given to their books dealing with the study of human bones the title *Περὶ σκελετοῦ*, *On Bones for Beginners* (2.734.10 K.).

²⁵ Galen, *De anat. admin.* 1.2 (2.220.15 K.): ἔργον δέ σοι γενέσθω καὶ σπούδασμα, μὴ μόνον ἐκ τοῦ βιβλίου τὴν ἰδέαν ἐκάστου τῶν ὀστέων ἀκριβῶς ἐκμαθεῖν, ἀλλὰ καὶ διὰ τῶν ὀμμάτων σύντονον αὐτόπτην αὐτὸν ἐργάσασθαι τῶν ἀνθρωπέων ὀστέων. ἔστι δ' ἐν Ἀλεξανδρείᾳ μὲν τοῦτο πάνυ ῥάδιον, ὥστε καὶ τὴν διδασκαλίαν αὐτῶν τοῖς φοιτηταῖς οἱ κατ' ἐκεῖνο τὸ χωρίον ἰατροὶ μετὰ τῆς αὐτοψίας πορίζονται. καὶ πειρατέον ἐστὶ σοι, κἄν μὴ δι' ἄλλο τι, διὰ τοῦτο γοῦν αὐτὸ μόνον ἐν Ἀλεξανδρείᾳ γενέσθαι. μὴ δυνήθῃ δὲ τούτου τυχεῖν, οὐκ ἀδύνατον οὐδ' οὕτως ἀνθρώπων ὅσα θεάσασθαι. ἐγὼ γε οὖν ἐθεασάμην πάνυ πολλάκις, ἥτοι τάφων τινῶν, ἢ μνημάτων διαλυθέντων. Galen adds other examples, recommending that one dissect one of the apes most similar to man, if there is no possibility of seeing human bones. An αὐτόπτης is an eye-witness, one who sees something with his own eyes. Herodotus uses the word already (3), then we find it in Plato (1), Aristotle (6), Polybius (22), etc. Galen uses it eighteen times; cf. also the text in footnote 70. The term αὐτοψία, 'observation with one's own eyes', is found from the first century AD, in Dioscorides (2) and Soranus (1); Galen uses it twelve times.

4. References to his own teachers of medicine²⁶

Generally speaking, Galen criticizes severely those who have studied medicine without teachers. In contrast to this opinion, he mentions his own teachers relatively frequently, often without giving their names.

A. Cited by name:

a. Satyrus is mentioned in several passages.²⁷ ‘My teacher Satyrus – as I had come to be with him first, then I heard Pelops – did not give the same explanations of the Hippocratic books as Lycus. It is agreed that Satyrus preserves most accurately the opinions of Quintus without adding or taking away anything.’²⁸ ‘<Satyrus>, the pupil <of Quintus>, who was my teacher before <Pelops>, explained this like this...’²⁹ ‘At that time I was still living in my home town, being educated by Satyrus, who was staying in Pergamum, for the fourth year already, with Costunius Rufinus, who was building the temple of Zeus Asclepius for us. Not long before, Quintus had died, the teacher of Satyrus. Some of us had observed him. When Satyrus dissected some of the parts stripped bare of flesh, we recognized them immediately and made an

²⁶ Galen calls Hippocrates his ‘teacher’ in a broad and generalized sense. To quote some examples: Galen, *De temper.* 2.4 (1.605.1 K.): ‘And the teacher of these signs, as well as of all the others, the praiseworthy Hippocrates’; *De ther. ad Pis.* 4 (14.228.9 K.): ‘Making use of the teacher of these things, as well as of all the others, Hippocrates, the best.’ (διδασκάλω καὶ τούτων, ὥσπερ καὶ τῶν ἄλλων ἀπάντων, Ἱπποκράτει τῷ ἀρίστῳ χρώμενοι). Note the emphatic position, at the end of the sentence, of the adjective in the absolute superlative. Galen, *In Hipp. Vict. Rat. de Morb. Acut. comment.* 1.24 (15.478.5 K.): ‘to Hippocrates, the teacher’, etc.

²⁷ The *TLG* shows eleven occurrences for this name in our author, but some of these are not substantiated by the transmitted text. Apart from the ones about to be quoted now, two more will be mentioned below: cf. ns 36 and 63.

²⁸ Galen, *De ord. libr. suor.* (19.57.19-58.1 K.): ὁ δ' ἡμέτερος διδάσκαλος Σάτυρος – τούτῳ γὰρ πρῶτῳ συγγενόμενοι μετὰ ταῦτ' ἠκούσαμεν Πέλοπος – οὐ τὰς αὐτὰς ἐξηγήσεις ἐποιεῖτο τῷ Λύκῳ τῶν Ἱπποκρατείων βιβλίων· ὁμολογεῖται δὲ Σάτυρος ἀκριβέστατα διασώζειν τὰ Κοῖντου δόγματα μήτε προσθεῖς αὐτοῖς τι μήτ' ἀφελών· This is a fundamental passage for our study, as it shows that Galen's first teacher had no theory of his own, but that he had always confined himself to repeating those of his teacher, Quintus (cf. 19.58.5 K.). Another very interesting point is the fact that Pelops was a commentator on the Hippocratic books, an activity in which the Pergamene also excelled. Another detail of indisputable relevance is that Pelops wrote books on anatomy, unlike other doctors who had written nothing on their speciality.

²⁹ Galen, *In Hipp. Prorrh. comment.* 1.5 (16.524.11 K.): Τοῦτο <Σάτυρος> ὁ <Κοῖντος> μαθητῆς, ὃν ἐγὼ πρότερον ἔσχον διδάσκαλον <Πέλοπος>, οὕτως ἐξηγεῖτο...

articulate diagnosis ...'.³⁰ 'As for the opinion of Quintus about valerian, which I heard not only from Satyrus, but also from other disciples of Quintus, it is better to explain it ...'.³¹ 'Satyrus, my teacher, said, mocking, this that Quintus had said among his well-turned words that those who tell us to add twice the amount of cassia when we lack *kinnamon*, do the same as those who think it fit when we have no wine of Phalerum, to make drink twice the amount of the wine bought at the taverns, or if we lack pure bread, to eat twice the amount of that called *piturias*'.³²

b. Pelops is the teacher quoted most often, as such, by Galen.³³ In some cases the syntactic construction appears without the corresponding possessive, as the teacher *par excellence*: 'The things written in the three books were the teachings of the teacher Pelops. I wrote them <in> Smyrna while passing some time with him'.³⁴ In other cases we

³⁰ Galen, *De anat. admin.* 1.2 (2.224.16-225.2 K.): ἐγὼ δὲ ἐν τῇ πατρίδι κατ' ἐκείνον ἔτι διέτριβον τὸν χρόνον, ὑπὸ Σατύρῳ παιδευόμενος, ἔτος ἡδὴ τέταρτον ἐπιδημοῦντι τῇ Περγᾶμῳ μετὰ Κοστουνίου Ῥουφίνου, κατασκευάζοντος ἡμῖν τὸν νεῶν τοῦ Διὸς Ἀσκληπιοῦ ἐτεθνήκει δ' οὐ πρὸ πολλοῦ Κόϊντος, ὁ διδάσκαλος τοῦ Σατύρου. ὅσοι μὲν οὖν ἡμῶν ἐτεθέαντο, Σατύρου ἀνατέμνοντος τῶν ἐψιλωμένων τι μορίων, ἐτοίμως τ' ἐγνωρίζομεν αὐτὰ καὶ διηρθρωμένην ἐποιούμεθα τὴν διάγνωσιν... Note the form ἐψιλωμένων, perfect participle, medium, of the verb ψιλῶ, 'to remove the hair, strip, bare', which is used nine times in our author, especially when speaking about bones and muscles.

³¹ Galen, *Antid.* 1.14 (14.71.10 K.): περὶ μέντοι τοῦ καρπησίου τὴν Κοῖντου γνώμην, ἣν οὐ παρὰ Σατύρου μόνον, ἀλλὰ καὶ ἄλλων μαθητῶν ἤκουσα τοῦ Κοῖντου, διελθεῖν ἄμεινον.

³² Galen, *Antid.* 1.14 (14.69.6 K.): σκώπτων γὰρ τοῦτο Σάτυρος ὁ διδάσκαλος ἡμῶν ἔλεγεν, ὡς Κοῖντου τῶν εὐπραπέλων λόγων ἓνα καὶ τόνδε λέγοντος, ὅμοιον τι ποιεῖν τοὺς κελεύοντας διπλασίαν ἐμβάλλειν ἡμᾶς κασσίαν, ὅταν ἀπορώμεν κινναμώμου τοῖς ἀξιοῦσιν, ὅταν μὴ σχῶμεν οἶνον Φαλερίνον, ποιεῖν διπλάσιον πίνειν τοῦ πιπρασκομένου κατὰ τὰ καπηλεῖα, καὶ ἄρτου ποτ' ἀπορώμεν καθαροῦ, διπλάσιον ἐσθίειν τοῦ πιτυρίου καλουμένου. *Piturias* (or *piturites*) is a bread made with bran.

³³ The *TLG* acknowledges 28 citations in Galen, some of them not supported by the text as we have it. Cf. also the passage in footnote 63.

³⁴ Galen, *De libr. propr.* 2 (19. 17.15 K.): τὰ γὰρ ἐν τοῖς τρισὶ γεγραμμένα Πέλοπος ἦν τοῦ διδασκάλου δόγματα, παρ' ᾧ διατρίβων <κατὰ> Σμύρναν ἔγραψα ταῦτα. Cf. 19.57.9 K.; *In Hipp. Aph. comment.* 6.18 (18a.29.10 K.): 'when the teacher Pelops was still alive'; *De loc. aff.* 3.24 (8.194.18 K.): 'it seemed to the teacher Pelops to be one of the two things'; *De atra bile* 3 (5.112.12 K.): 'From when I was a youth, having learnt with the teacher <Pelops> the signs of each of the humours, and then having observed them throughout my entire life until now, I have always seen that the humour of perfectly black bile is excreted in a pernicious way, and that the evacuation of black substances not infrequently turns out for the good' (ἐγὼ δὲ ἐκ μειρακίου παρὰ <Πέλοπι> τῷ διδασκάλῳ μαθὼν ἐκάτερου τῶν χυμῶν τὰ γνωρίσματα κάπειτα παραφυλάττων

do find an indication of the possessive. As on so many occasions, Galen shows himself to be a consummate master of *variatio*.³⁵ Let us now look at a passage stating that a certain teacher did not write anything, while his disciples did: ‘And the pupils of these men, many others; the most outstanding: of Numisianus, my teacher, <Pelops>, and of Marinus, Quintus. However, Quintus wrote neither any other kind of book nor an anatomical one. By contrast, we have not a small number of books by all the others. But there are anatomical writings by the disciples of Quintus, such as those by <Satyrus>, my teacher, and by <Lycus>’.³⁶ Another relevant example: ‘My teacher Pelops, in the anatomy of the tongue, writes that there are 16 muscles in the bovine tongue, but now, as I have said at the beginning, I have decided to practise with apes regarding their body, because of their similarity with the human.’³⁷ Here, we find a curious opinion: ‘Our teacher Pelops, wishing to state the causes of all these, said reasonably that the crab, being an aquatic animal, was beneficial to those bitten by rabid animals, with whom there is the fear that they will be seized by an

αὐτὰ δι' ὅλου τοῦ ἔμοῦ βίου μέχρι δεῦρο, τὸν μὲν τῆς ἀκριβοῦς μελαίνης χολῆς χυμὸν ὀλεθρίως ἐκκρινόμενον ἔθεασάμην αἰεί, τὴν δὲ τῶν μελάνων κένωσιν οὐκ ὀλιγάκις ἐπ' ἀγαθῷ γινομένην); *De plac. Hipp. et Plat.* 6.3 (5.527.14 K.): ‘I did not heard this explanation, being barely a youth, from the teacher Pelops...’ (ἐγὼ τοῦτον τὸν λόγον οὐδ' ὅτε μεράκιον ὦν ἤκουσα παρὰ τοῦ διδασκάλου Πέλοπος). Note that in the last two examples Galen refers to himself as a ‘youth’ or ‘adolescent’ (μεράκιον) when he was the pupil of Pelops. However, according to some historians of medicine he was already over twenty. The Greek term mentioned covers seven years, namely from the age of fourteen to twenty-one.

³⁵ The genitive plural of the first-person pronoun at 12.358.8 K.; 15.136.10 K.; 18a.541.10 K.; 18b.959.4 K. (ὁ διδάσκαλος ἡμῶν Πέλοψ); this construction shows variations according to the passage as a mark of style. The possessive of the first person appears less frequently: cf. 5.543.18 K.): ὁ ἡμέτερος Πέλοψ.

³⁶ Galen, *Antid.* 2.6 (15.136.11 K.): μαθηταὶ δὲ τῶν ἀνδρῶν τῶνδε πολλοὶ τε καὶ ἄλλοι, διαπρεπέστατοι δὲ Νομισιανοῦ μὲν ὁ διδάσκαλος ἡμῶν <Πέλοψ>, Μαρίνου δὲ <Κόιντος>. ἀλλὰ Κόιντος μὲν οὐτ' ἄλλο τι βιβλίον οὐτ' ἀνατομικὸν ἔγραψε, τῶν δ' ἄλλων ἀπάντων ἀνατομικὰς ἔχομεν οὐκ ὀλίγας βίβλους. ἀλλὰ καὶ τῶν Κοϊντου μαθητῶν ἔστιν ἀνατομικὰ συγγράμματα, καθάπερ τὰ <Σατύρου> τε τοῦ ἡμετέρου διδασκάλου καὶ <Λύκου>. One can observe the *variatio*: ὁ διδάσκαλος ἡμῶν Πέλοψ as opposed to Σατύρου τε τοῦ ἡμετέρου διδασκάλου. Equally interesting is the lexical convergence: μαθηταὶ-διδάσκαλος-μαθητῶν-διδασκάλου.

³⁷ Galen, *De musc. dissect.* (18b.959.4 K.): Ὡς μὲν ὁ διδάσκαλος ἡμῶν Πέλοψ ἐν γλώττης ἀνατομῇ γράφει, μύες ἕξ καὶ δέκα βοείας εἰσι γλώττης, ἡμῖν δὲ νῦν, ὡς ἐν ἀρχῇ προεῖρηται, γυμνασθῆναι πρόκειται περὶ πιθήκων εἰς σῶμα διὰ τὴν πρὸς ἄνθρωπον ὁμοιότητα.

extremely dry affection, i.e. rabies, and because of that also fear water.³⁸

c. There are two mentions of Stratonicus: ‘Later, after a year, one of my teachers at <Pergamum>, by the name of <Stratonicus>, a pupil <of Sabinus the Hippocratic>, having cut the vein in the bend of a man’s arm and observed that thick and black blood was secreted, took some away again the next day, and then, in the same way, a little on the third and the fourth days, and having after that purged him with a remedy that clears out the black humour, and provided him with a diet that produces good juices, turned towards the curation of the ulcer.’³⁹

d. Likewise, we have two citations of Aeschrion: ‘And moreover I have rarely used them (*sc.* the crabs) baked, and in general as Aeschrion the Empiricist used them, an old man highly experienced in remedies, my fellow citizen and teacher. He had a pan of red bronze on which, having placed them there alive, he roasted the crabs until they were burnt to ashes, so that they can be crushed easily. This Aeschrion always had the remedy prepared and ready at home – roasting the crabs in summertime, after the rise of the Dog (Star), when the sun was in Leo and the moon at the 18th day.’⁴⁰

³⁸ Galen, *De simp. med. temp. ac fac.* 11.34 (12.358.8 K.): ἀπάντων δὲ τῶν τοιούτων τὰς αἰτίας λέγειν βουλόμενος ὁ διδάσκαλος ἡμῶν Πέλοψ εἰκότως ἔφη τὸν καρκίνον, ἔνυδρον ζῶον ὑπάρχοντα, ὠφελεῖν τοὺς λυσοδῆκτους, οἷς φόβος ἐστὶν ἀλῶναι πάθει ξηροτάτῳ τῇ λύττῃ, διὸ καὶ τὸ ὕδωρ φοβοῦνται.

³⁹ Galen, *De atra bile* 4 (5.119.6 K.): ὕστερον δὲ ποτε μετ’ ἐνιαυτὸν εἰς τῶν ἐν <Περγάμῳ> διδασκάλων ἡμῶν <Στρατόνικος> ὄνομα, μαθητῆς <Σαβίνου τοῦ Ἱπποκρατείου>, φλέβα τεμὼν ἐν ἀγκῶνι τοῦ ἀνθρώπου καὶ θεασάμενος ἐκκρινόμενον αἷμα παχὺ καὶ μέλαν ἐπαφείλε κατὰ τὴν ὕστεραίαν ὀλίγον, εἴτα κατὰ τὴν τρίτην τε καὶ τετάρτην ἡμέραν ὁμοίως ὀλίγον καθήρας τε μετὰ ταῦτα φαρμάκῳ μέλανα χυμὸν ἐκκενοῦντι καὶ τὴν διαίταν αὐτῷ εὐχυμον παρασκευάσας ἐπὶ τὴν θεραπείαν τοῦ ἔλκου ἐτράπετο. At Galen, *De sem.* 2.5 (4.629.6 K.) we read: ‘... It would seem that Stratonicus, the student of nature, was not reasoning beyond the point that the male animal is produced by the prevalence of the male semen, and the female by that of the female [semen]’ (οὐκ ἂν ἄπο τρόπου δόξειεν ὁ φυσικὸς Στρατόνικος ὑπεिल्φέναι, τὸ μὲν ἄρβεν γίνεσθαι ζῶον ἐπικρατεία γονῆς ἄρβενος, τὸ δὲ θήλυ θηλείας). I know of only one other example in the Galenic treatises in which this adjective (φυσικός) modifies a proper noun: at 7.616.1 K., where it refers to Straton.

⁴⁰ Galen, *De simp. med. temp. ac fac.* 11.34 (12.356.18-357.2 K.): καὶ ἄλλως μὲν οὖν καυθεῖσιν αὐτοῖς ἐχρησάμεθα ποτε σπανίως, ὡς τὸ πολὺ δὲ καθ’ ὃν Αἰσχυρίων ὁ ἐμπειρικός ἐχρήσατο φαρμάκων ἐμπειρικώτατος γέρων, πολίτης τε καὶ διδάσκαλος ἡμέτερος. ἦν δὲ λοιπὰς ἐρυθροῦ χαλκοῦ, καθ’ ἧς ἐπιτιθεῖς ζῶντας τοὺς καρκίνους ἔκαε ἄχρις οὗ τεφρωθῶσιν, ὡς εὐκόλως λειοῦσθαι. οὗτος ὁ Αἰσχυρίων εἶχεν ἀεὶ

B. Anonymous teachers.⁴¹

a. Sometimes he refers to them by the adjective corresponding to the school to which they belong. This is the case, e.g., with ‘Empiricist’, where we cannot be certain whether Galen is speaking about a teacher of medicine or one of philosophy.⁴²

b. Within the framework of anonymity, the reputation of being among the elite of a famous physician’s followers is doubtless important. This is the case in the following passage: ‘My teachers – they were the leaders of the pupils of Quintus and Numisianus – having demonstrated and shown to me that the lung is moved by the thorax in the way in which Erasistratus wrote, the expositions are written [down] in the two first books of ‘On the Movement of the Thorax and the Lung, ...’⁴³

c. More indirect references are the ones referring to the location in which some doctors teach, or to the subject with which they are concerned. We can see this in the following passages: ‘In our Asia I first saw a luxation of this kind, when I was still being trained in Smyrna by the teachers there.’⁴⁴ ‘When the teacher of those things first

παρεσκευασμένον ἔτοιμον ἐπὶ τῆς οἰκίας τὸ φάρμακον, ὥρα θέρους κάων τοὺς καρκίνους, μετὰ τὴν τοῦ κυνὸς ἐπιτολὴν, ἡνίκα λέοντι ἥλιος ἦν, ἡ σελήνη δὲ ὀκτωκαιδεκαταία. Only on one other occasion (18a.525.1 K.) do we find the superlative ἐμπειρικώτατος, applied to Hippocrates, amidst a play on words like the one that we encounter here. While here the adjective is for good reason used in the positive (ἐμπειρικός), there he is severely criticizing those who use this appellative for the father of medicine.

⁴¹ We record only references to teachers of medicine in the widest sense.

⁴² Galen, *De plenit.* 9 (7.558.4 K.): ‘Therefore, we shall ask them that which I, being a youth, asked the Empiricist teacher, when he taught me these things for the first time’ (ἐρωτήσομεν οὖν αὐτοὺς, ἅπερ ἐγὼ μειράκιον ὦν ἠρώτησα τὸν ἐμπειρικὸν διδάσκαλον, ὅτε με πρῶτον ταῦτα ἐδίδασκεν). The context is a discussion of plethora or plenitude, a medical, but also a philosophical, concept.

⁴³ Galen, *De anat. admin.* 8.2 (2.660.4 K.): τῶν οὖν διδασκάλων τῶν ἡμετέρων, οἱ κορυφαῖοι δ’ ἦσαν οὗτοι τῶν Κοίντου τε καὶ Νουμησιανοῦ μαθητῶν, ὅτι μὲν ὑπὸ τοῦ θώρακος ὁ πνεύμων κινεῖται, καθ’ ὃν Ἐρασίστρατος ἔγραψε τρόπον, ἀποδειξάντων τε καὶ δειξάντων ἡμῖν, ἐν δυοῖν τοῖς πρῶτοις γράμμασι περὶ θώρακος τε καὶ πνεύμονος κινήσεως αἱ τ’ ἀποδείξεις εἰσὶ γεγραμμέναι... For Numisianus (or Numesianus), cf. passage indicated in note 63.

⁴⁴ Galen, *In Hipp. Artic. comment.* 1.22 (18a.347.11 K.): κατὰ μὲν γε τὴν ἡμετέραν Ἀσίαν τὸ πρῶτον ἐθεασάμην ἔκπτωσιν τοιαύτην, ἔθ’ ὑπὸ τοῖς ἐκεῖ διδασκάλοις παιδευόμενος ἐν Σμύρνη.

attempted to teach me the opinion of Athenaeus, I appreciated it that he accurately distinguished the homonymy for me.⁴⁵

d. Normally, and very frequently, Galen omits all detail about schools or periods. In some cases we can deduce, from the context, that these anonymous teachers were experts in dissection: 'My teachers believed – incorrectly – that in breathing in only the diaphragm moves the thorax.'⁴⁶ 'The third (*sc.* book) of these explains of what kind is the motion of the thorax – this, too, being in agreement with my teachers' opinion.'⁴⁷ 'I observed all my teachers treating with the treatment habitually called, already then, *enaimos*, and 'closing' by the most recent physicians. For, applying in the beginning one of the remedies called *enaimos*, they attempted to close the lips of the wound'⁴⁸

e. Other passages indicate to us that these teachers did not know a particular dissection. Thus we read it regarding the changes in an animal's voice when certain fibres are cut: 'This was of course not known to my teachers, as they had never attempted the afore-said dissection.'⁴⁹ And also in the following passage: 'And I am in the habit of calling phonetic nerves the ones discovered by me, while my teachers knew only the ones in the vicinity of the arteries.'⁵⁰

⁴⁵ Galen, *De elem. sec. Hipp.* 1.6 = 1.460.16 K.: ἡνίκα τὸ πρῶτον ὁ τούτων διδάσκαλος ἐπεχείρει με διδάσκειν τὴν Ἀθηναίου γνώμην, ἡξίουσαν αὐτὸν ἀκριβῶς μοι διελεῖσθαι τὴν ὁμωνυμίαν. This is Athenaeus of Apamea, a doctor of the first century BC, founder of the Pneumatist school, and an authority on Stoic principles, especially on Posidonius. He studied the importance of pneuma in the human body, concentrating in particular on the way in which it causes certain diseases. The passage in question discusses the four elementary qualities: hot-cold, dry-wet.

⁴⁶ Galen, *De anat. admin.* 8.2 (2.657.14 K.): οἱ διδάσκαλοι δ' ἡμῶν οὐκ ὀρθῶς ᾤοντο μόνας τὰς φρένας κινεῖν τὸν θώρακα κατὰ τὰς ἀναπνοὰς... One can see Galen's critical attitude towards these opinions.

⁴⁷ Galen, *De anat. admin.* 8.2 (2.660.13 K.): τὸ τρίτον δ' αὐτῶν, ὅποια τίς ἐστὶν ἡ τοῦ θώρακος κίνησις, ἐξηγεῖται, κατὰ τὴν γνώμην τῶν διδασκάλων καὶ τοῦτο συγκεῖμενον.

⁴⁸ Galen, *De comp. med. per gen.* 3.2 (13.564.6 K.): Ἐθεασάμην μὲν ἅπαντας τοὺς διδασκάλους τῇ καλουμένῃ συνήθειᾳ ἤδη τοῖς νεωτέροις ἰατροῖς ἐναίμῳ καὶ κολλητικῇ θεραπεύοντας ἀγωγῇ. κατ' ἀρχὰς γὰρ ἐπιτιθέντες τι φάρμακον τῶν ἐναίμων καλουμένων, ἐπειρῶντο κολλᾶν τὰ χεῖλη τοῦ τραύματος. 'All' is clearly Galen's exaggeration. The term *enaimos* could be translated as haemostatic.

⁴⁹ Galen, *De anat. admin.* 8.2 (2.663.16 K.): τοῦτο δ' εἰκότως ἡγνοεῖτο τοῖς διδασκάλοις ἡμῶν, ὥς ἂν μηδὲ πώποτε πειραθεῖσι τῆς εἰρημένης ἀνατομῆς.

⁵⁰ Galen, *De loc. aff.* 1.6 (8.53.4 K.): ὀνομάζειν δὲ εἴωθα φωνητικὰ νεῦρα τὰ πρὸς ἡμῶν εὐρεθέντα, τῶν διδασκάλων μόνα τὰ παρὰ ταῖς ἀρτηρίαις εἰδότες.

f. Some of these anonymous teachers did not exactly stand out by their knowledge about the functioning of the digestive system. Let us look at a passage that illustrates how Galen, with his teachers, observes a sick man, without either them or him knowing what is happening to the patient: 'I know that, together with my teachers, I observed as the first patient of all a middle-aged man, who had been afflicted for not a few months. However, neither did any of them know his condition nor did I. After that, when I had already discovered the therapeutic method, I realized that this was what I had observed long ago. But it is better to set it out in detail, for this will benefit those hearing it in all ways, just like myself. The man was forty years old, he was of medium stature in relation to stoutness and slimness at the time when he was in good health. He was strongly thirsty, and he said that he hated anything hot, but no-one gave him anything cold, although he begged for it very much. Nevertheless, he did not appear to the physicians to have a fever, and the belly excreted what he had taken after three or four hours, together with the drink'⁵¹

g. Occasionally, our author asserts that he has not acquired a particular knowledge with any teacher. Let us look at some examples: 'And if someone wants to be famous himself on the base of the works of the art, not of sophistic discourses, it is possible for him, without toil, to read the things that I have discovered with much investigation in my entire life. Let him know therefore that in the rare diseases, in which I neither saw a teacher heal one suffering from them nor I myself ever endeavoured to help, I used this way for the discovery of the cure. Let the gods, now too, be witnesses of my discourse.'⁵² 'Now, being placed

⁵¹ Galen, *De meth. med.* 7.8 (10.504.5 K.): καὶ ἐγὼ πρῶτον μὲν ἀπάντων οἶδ' αὖτις θεασάμενος ἅμα τοῖς διδασκάλοις ἄνδρα τῆς καθεστῶσης ἡλικίας, ἐνοχλούμενον ἤδη μηνῶν οὐκ ὀλίγων· ἀλλ' οὐτ' ἐκείνων τις ἐγίνωσκε τὴν διάθεσιν οὐτ' ἐγὼ μετὰ ταῦτα δ' ἀνεμνήσθην εὐρηκῶς ἤδη τὴν θεραπευτικὴν μέθοδον, ὡς τοῦτ' ἄρ' ἦν ἐκεῖνο τὸ θεωρηθέν μοι πάλαι. κάλλιον δ' αὐτὸ καὶ διηγήσασθαι, πάντως γὰρ δὴ πού καὶ τοὺς ἀκούσαντας ὀνήσει, καθάπερ καὶ ἐγώ. τετρακοντούτης μὲν ἦν ὁ ἄνθρωπος, ἔξωθεν δὲ συμμέτρου κατὰ πάχος καὶ λεπτότητα κατὰ τὸν τῆς υἱείας χρόνον. ἐδίψα δὲ σφόδρα καὶ μισεῖν ἔφασκε τὸ θερμὸν, ἐδίδου δ' αὐτῷ οὐδεὶς ψυχρὸν ἱκανῶς λιπαροῦντι· πυρέττειν μὲντοι τοῖς ἰατροῖς οὐκ ἔδόκει· καὶ ἡ γαστήρ ἐξέκρινε τὰ ληφθέντα τριῶν ἢ τεττάρων ὥρων ὕστερον ἅμα τῷ ποτῶ.

⁵² Galen, *De loc. aff.* 3.4 (8.146.6 K.): εἰ δὲ τις ἐθέλει καὶ αὐτὸς ἀπὸ τῶν ἔργων τῆς τέχνης, οὐκ ἀπὸ λόγων σοφιστικῶν ἔνδοξος γενέσθαι, πάρεστι τούτῳ χωρὶς ταλαιπωρίας ἀναλέγεσθαι τὰ πρὸς ἡμῶν ὑρῆμένα μετὰ πολλῆς ζητήσεως ἐν ὅλῳ τῷ βίῳ. Γινωσκέτω τοιγαροῦν οὗτος ἐν τοῖς σπανίοις πάθεσιν, ἐν οἷς οὐτὲ διδάσκαλον

in the necessity of recovering the lost memory of someone, still being quite young, having neither seen any of the teachers treating this affection, nor read of the cure in any of the Ancients, I searched on my own at first to find which would be the affected place, to which I would apply the so-called topical remedies, after the care for the entire body manifestly, for that is common to all affections.⁵³

h. The author gives us some information about his reading one day, together with his teachers, of the Hippocratic treatise *Regimen in Health*: 'Whom he calls <laymen>, those who have explained the book have left out, in the treatises that I encountered. Yet, I never inquired further on the occasion of reading the book with the <teachers>. And now, intending to write a commentary on it, I perceived that it was a bad thing for my teachers and for the commentators to have omitted examining whom he calls laymen.'⁵⁴

i. Furthermore, Galen frequently refers to his teachers of medicine without indicating their names, or providing other information that could give us some clues for their identification. We can count quite a number of examples.⁵⁵ I believe that in some treatises the repeated references to anonymous teachers can be considered stylistic features.

εἶδον ἰασάμενόν τινα τῶν πασχόντων οὐτ' αὐτός ποτε ἐπειράθην βοηθήματος, ὁδῶ τοιαύτῃ με χρησάμενον εἰς τὴν τῶν ἰαμάτων εὐρεσιν. ἔστωσαν οὖν μοι καὶ νῦν θεοὶ τοῦ λόγου μάρτυρες

⁵³ Galen, *De loc. aff.* 3.5 (8.147.16 K.): Εἰς ἀνάγκην οὖν ποτε καταστάς ἀνακτήσασθαί τινος ἀπολωλυῖαν μνήμην, ἔτι νεώτερος ὢν, οὔτε τῶν διδασκάλων ἐωρακώς τινα θεραπεύοντα τοῦτο τὸ πάθος οὐτ' ἀνεγνωκώς παρά τινι τῶν ἀρχαίων τὴν ἴασιν, ἐζήτουν κατ' ἐμαυτὸν πρῶτον μὲν εὐρεῖν, τίς ἂν εἴη ὁ πεπονθὼς τόπος, ᾧ προσάξω τὰ καλούμενα τοπικὰ βοηθήματα, μετὰ τὴν τοῦ παντὸς σώματος ἐπιμέλειαν δηλονότι, κοινὸν γάρ τοῦτο ἐπὶ πάντων ἐστὶ τῶν παθῶν·

⁵⁴ Galen, *In Hipp. Vict. Rat. de Morb. Acut. comment.* 1 (15.175.12 K.): Τίνας <ιδιώτας> λέγει, παραλελοίπασιν οἱ ἐξηγησάμενοι τὸ βιβλίον, οἷς γε δὴ παρέτυχον ὑπομνήμασιν· οὐ μὴν οὐδ' ἐπεζήτησά ποτε κατὰ τὴν παρὰ τοῖς <διδασκάλοις> ἀνάγνωσιν τοῦ βιβλίου. νυνὶ δὲ γράφειν ἐξήγησιν αὐτοῦ προθέμενος ἐπενόησα κακῶς παραλελείφθαι τοῖς τε διδασκάλοις ἡμῶν καὶ τοῖς ἐξηγηταῖς ἐπισκέψασθαι, τίνας ιδιώτας λέγει.

⁵⁵ To choose a few: 8.143.4 K.; 146.6 K.; 147. 16 K.; 9. 678.1 K.; 12. 364.2 K.; 376.3 K.; 14.613.10 K.; 624.3 K.; 15. 175.12 K.; 176.2 K.; 18a.46.3 ('none of my teachers'); 136.8 K.; 19. 19.11. Let us look at the last one (*De libr. propr.* 2): 'During that time, I collected and brought into a lasting system that which I had learnt with the teachers and that which I had discovered myself...' (κατὰ τοῦτον οὖν τὸν χρόνον συνελεξάμην τε καὶ εἰς ἕξιν ἤγαγον μόνιμον ἅ τε παρὰ τῶν διδασκάλων ἐμεμαθήκειν ἅ τ' αὐτὸς εὐρίσκειν...).

This can be observed in *On Anatomical Procedures*,⁵⁶ *On the Therapeutic Method*,⁵⁷ *On the Composition of Drugs according to Places*,⁵⁸ and *On the Composition of Drugs according to Kind*.⁵⁹

j. With his teachers, our author learnt some things that may seem surprising to the present-day reader: 'I myself also know, having tried it, of the marvellous faculty of human and dog's excrement. I shall tell you first of the canine one, which one of my teachers used continually, giving only bones to eat to a dog on two consecutive days, from which the excrement becomes hard and white and as little malodorous as possible. Now, taking this, he dried it, so as to grind it easily later, when he wanted to use it. He used it for angina, dysentery and the oldest ulcers.'⁶⁰

k. The following passage illustrates the high regard and great appreciation that Galen had for the use of correct terminology: 'He who wants to teach another that which he knows, will evidently need names for the things, and will have clarity as the limit of their use. For he who makes the effort to name so that the one who is learning understands most clearly, is the best teacher.'⁶¹

⁵⁶ 2.657.4 K.; 660.4. 13 K.; 663.16 K.; 675.14 K.

⁵⁷ 10.109.9 K.; 171.14 K.; 264.2 K.; 394.15 K.; 465.17 K.

⁵⁸ 12.417.4 K.; 494.1 K.; 585.8 K.; 595.1.18 K.; 710.5 K.; 766.10 K.; 904.14 K.; 979.1 K.

⁵⁹ 13.503.4 K.; 513.6 K.; 514.7 K.; 564.6 K.; 601.12 K.; 751.10 K.; 776.5 K.

⁶⁰ Galen, *De simp. med. temp. ac fac.* 10.19 (12.291.13 K.): 'Εγώ γοῦν οἶδα καὶ αὐτὸς θαυμαστῆς δυνάμεως πειραθεὶς ἀνθρωπείας τε καὶ κυνὸς κόπρου. λέξω δέ σοι περὶ προτέρας τῆς κυνείας, ἥ συνεχῶς ἐχρητό τις τῶν ἡμετέρων διδασκάλων, ὅσα διδοὺς ἐσθίειν κυνὶ μόνα δυεῖν ἐφεξῆς ἡμερῶν, ἐξ ὧν σκληρὰ καὶ λευκὴ καὶ ἥκιστα δυσώδης ἢ κόπρος γίγνεται. ταύτην οὖν λαμβάνων ἐξήραινεν, ὡς ὕστερον ὅποτε βούληται χρῆσθαι λειοῦσθαι ῥαδίως, ἐχρητο δ' αὐτῇ πρὸς τε συνάγχας καὶ δυσεντερίας καὶ τὰ παλαιότατα τῶν ἐλκῶν.

⁶¹ Galen, *De meth. med.* 2.1 (10.81.9 K.): διδάσκειν μὲν τοι βουλόμενος ἕτερον ἂ γινώσκει, δεῖσεται τε πάντως ὀνομάτων ἐπὶ τοῖς πράγμασιν, ὅρον τε τῆς χρήσεως αὐτῶν ἕξει τὴν σαφήνειαν· ὁ γὰρ ὡς ἂν ὁ μανθάνων ἐκμάθοι σαφέστατα μάλιστα σπουδάζων ὀνομάζειν, ἄριστος διδάσκαλος. This passage appears in the context of a discussion about the teaching of medicine. Let me point out the need for a ὅρος, 'limit', 'norm', 'rule', when fitting words to things. This limit or norm needs to consist in σαφήνεια. Cf. footnote 7. The text leaves no doubt on the fact that the person who is teaching has to make great efforts to designate (ὀνομάζειν, 'give names', 'use names') things precisely.

5. Some evidence about his own way of teaching medicine

a. We have some information about public lectures held by our author: 'And speaking once in public about the books of the ancient physicians, having first propounded the [book] by Erasistratus *About the Vomiting of Blood*, and having stuck the stylus in it according to usage, then having shown upon it that part of the book in which he rejects phlebotomy, I said more regarding him, so as to annoy Martialius, who pretended to be an Erasistratean. And since the discourse had been highly esteemed to a sufficient extent, a friend of mine, who was vexed with him, asked me to dictate what I had said to the [man] he had sent to me, who was trained in writing fast by means of signs, so that, if I left the city for home, he could say these things to Martialius on occasion of his visits to the sick. Then – I do not know how – when I came to Rome for the second time, having been recalled by the emperors, the one who had received it had died, and not a few people had the book, composed as it was with the ambition of that time, when I made refutations in public. For I did this while still young, during my thirty-fourth year.

From then on I decided neither to teach in public nor to make demonstrations, when good luck had favoured me beyond my prayers in what regards those whom I was treating. For knowing my rivals in the art, when a physician is praised, how they hate him, calling him a *logiatros*, I wanted to stitch up their slanderous tongue by neither uttering anything above the necessary over those whom I was treating, nor teaching in front of great numbers of people as I had done before, nor to make demonstrations, but to demonstrate by means of the works of the art alone what position I had in its theories.⁶²

⁶² Galen, *De libr. propr.* 1 (19.14.5-15.13 K.): καὶ λέγων γέ ποτ' εἰς τὰ τῶν ἰατρῶν τῶν παλαιῶν βιβλία δημοσίᾳ προβληθέντος μοι τοῦ περὶ αἵματος ἀναγωγῆς Ἐρασιστράτου καὶ γραφείου καταπαγέντος εἰς αὐτὸ κατὰ τὸ ἔθος, εἶτα δειχθέντος ἐπ' ἐκεῖνο τὸ μέρος τοῦ βιβλίου, καθ' ὃ τὴν φλεβοτομίαν παραιτεῖται, πλείω πρὸς αὐτὸν εἶπον, ὅπως λυπήσαιο τὸν Μαρτιάλιον Ἐρασιστράτειον εἶναι προσποιούμενον. ἐπεὶ δ' ἱκανῶς ὁ λόγος ἠὲδοκίμησεν, ἐδέθη μού τις φίλος ἐπαχθῶς ἔχων πρὸς αὐτὸν ὑπαγορεῦσαι τὰ ῥηθέντα τῷ πεμφοθησομένῳ παρ' αὐτοῦ πρὸς με διὰ σημείων εἰς τάχος ἡσκημένῳ γράφειν, ὅπως, ἂν ἐξορμῇ τῆς πόλεως οἶκαδε, δύναίτο λέγειν αὐτὰ πρὸς τὸν Μαρτιάλιον ἐν ταῖς τῶν νοσοῦντων ἐπισκέψεσιν. ἔπειτ' οὐκ οἶδ' ὅπως, ὅτε τὸ δεύτερον ἦκον εἰς Ῥώμην ὑπὸ τῶν αὐτοκρατόρων μετακληθεὶς, ὁ μὲν λαβὼν ἐτεθνήκει, τὸ βιβλίον δ' εἶχον οὐκ ὀλίγοι κατὰ τὴν ἐν τῷ τότε καιρῷ φιλοτιμίαν συγκείμενον, ἥνικ' ἤλεγχον δημοσίᾳ· καὶ γὰρ δὴ καὶ νέος ὢν ἔτι τοῦτ' ἔπραξα τέταρτον ἔτος ἄγων καὶ τριακοστὸν. ἐξ ἐκείνου δ' ὥρισα μήτε διδάσκειν ἔτι δημοσίᾳ μήτ' ἐπιδείκνυσθαι προσδεξαμένης με τῆς κατὰ τοὺς θεραπευομένους εὐτυχίας

b. Let us now look at an autobiographical text, in which Galen refers to practising dissections in Rome: ‘And once, spending some time in Smyrna because of Pelops, who was my second teacher after Satyrus, the pupil of Quintus, I wrote these, not having yet said anything important or new. Then in Corinth because of Numisianus who, he too, was a most famous disciple of Quintus, and having been in Alexandria with some other people, with whom – as I had heard – that famous pupil of Quintus, Numisianus, was spending some time. Then, having gone back to my home-town and stayed there for not a long time, I returned to Rome, where I did a large number of dissections for Boethus, while with him there were always the Peripatetic Eudemus and Alexander of Damascus, who is now, in Athens, deemed worthy of teaching the Peripatetic theses at the public expense, often also some other men in office, such as the one who is now the prefect of the city of Rome, a man who holds altogether first place by his works and

μείζονος εὐχῆς εἰδὼς γὰρ τοὺς ἀντιτέχνους, ὅταν ἐπαινῇται τις ἰατρός, ὡς φθονοῦσιν αὐτὸν λογίατρον ἀποκαλοῦντες, ἀπορράψαι τὴν βάσκανον γλῶτταν αὐτῶν ἐβουλήθη οὐτ' ἐπὶ τῶν θεραπευομένων φθειγόμενός τι περαιτέρω τῶν ἀναγκαίων οὔτε διδάσκων ἐν πλήθει, καθάπερ ἔμπροσθεν, οὐτ' ἐπιδεικνύμενος ἀλλὰ διὰ τῶν ἔργων τῆς τέχνης μόνων ἐνδεικνύμενος ἦν εἶχον ἔξιν ἐν τοῖς θεωρήμασιν αὐτῆς. This passage contains various *realia* of extreme importance: pointing with the stylus (γραφεῖον) to the exact point that the orator is about to expound; enlarging on a subject in order to annoy someone who holds different medical ideas; dictating to others (ὑπαγορεύειν) a discourse given earlier; shorthand, by means of which the stenographer takes notes using special signs while the doctor is speaking; house-calls (ἐπισκέψεις) to visit the sick; the decision to no longer teach in public nor give demonstrations (μῆτε διδάσκειν ἔτι δημοσίᾳ μῆτ' ἐπιδείκνυσθαι) (Note that this is repeated twice with slight variations.); the epithet, or rather insult, of λογίατρος, ‘word doctor’, i.e. a fraud when it comes to medical practice; etc. It is worth stating that, although λογιατρεία, ‘medicine based on words’, appears once in Philo of Alexandria (*Congr.* 53), λογιατρός (or, with a different accent, λογίατρος) does not occur before our author, who uses it six times. The following example illustrates this (*In Hipp. Progn. comment.* 3.10 [18b.258.9 K.]): ‘In turn, others are adept at diagnosing diseases, and prognosticating what will happen, but they cannot say anything about the logical investigations, and therefore some are called doctors among the people, and others sophists and *logiatroi*. For they call them that, and if they see one reading a book and using discourse for the interpretation of useful remedies, they suspect him of being one of the *logiatroi*.’ (ἕτεροι δὲ ἔμπανιν ἱκανοὶ μὲν εἰσι καὶ διαγνῶναι τὰ νοσήματα καὶ προγνῶναι τὰ γενησόμενα, λέγειν δ' οὐδὲν ἔχουσιν εἰς τὰ λογικὰ ζητήματα καὶ ἐκ ταύτης τῆς αἰτίας ἄλλοι μὲν ἱατροὶ νομίζονται παρὰ τοῖς ἀνθρώποις, ἕτεροι δὲ σοφισταὶ καὶ λογιατροί. καλοῦσι γὰρ αὐτοὺς οὕτω, κἂν θεάσωνται τινα βιβλίον ἀναγινώσκοντα καὶ λόγῳ χρώμενον εἰς ἐρμηνείαν τῶν χρησίμων φαρμάκων, ὑποπτεύουσι τοῦτον ἐκ τῶν λογιατρῶν εἶναι).

discourses about philosophy, the consul Sergius Paulus. Now, at that time I produced the *Anatomical Procedures* for Boethus, much inferior to the ones that I am now going to write, not only by clarity, but also by precision.⁶³

c. On another occasion, our author recounts how he fared with the followers of Asclepiades of Bithynia.⁶⁴ ‘Now I had not a few times experience of this kind of physicians, how they admired my prognosis – when they saw that it was highly esteemed with the sick – and they strove to learn it. However, when someone, beginning to teach them, either explained something about the coction of diseases or about the strength of nature or about any of the other matters without which it is not possible for the theory of crisis to take shape, they would say: “And how will you convince me that there is a certain nature, or that it does everything for the preservation of the animals, or that, when it eliminates the excretions of the diseases, some people are alleviated, or that heat is the most active thing in animals, or that bodies are compounded of hot and cold and dry and wet?”’⁶⁵

⁶³ Galen, *De anat. admin.* 1.1 (2.217.15.18-218.2 K.): διατρίβων γὰρ ἔτι κατὰ Σμύρναν ἔνεκα Πέλοπος, ὃς δευτέρος μοι διδάσκαλος ἐγένετο μετὰ Σάτυρον τὸν Κοΐντου μαθητὴν, ἔγραψα μὲν αὐτά, μηδὲν μήπω μέγα καὶ καινὸν αὐτὸς εἰρηκώς. ὕστερον δὲ ἐν Κορίνθῳ μὲν Νουμισιανοῦ χάριν, ὃς καὶ αὐτὸς ἐνδοξότατος ἦν τῶν Κοΐντου μαθητῶν, ἐν Ἀλεξανδρείᾳ δὲ καὶ τισιν ἄλλοις ἔθνεσι γενόμενος, ἐν οἷς ἐπυνθανόμην Κοΐντου μαθητὴν ἐνδοξον Νουμισιανὸν διατρίβειν, εἴτ' ἐπανελθὼν εἰς τὴν πατρίδα, καὶ μείνας ἐν αὐτῇ χρόνον οὐ πολὺν, ἀνῆλθον εἰς Ῥώμην, ἐν ἣ καὶ τῷ Βοηθῷ παμπόλλας ἐποιήσαμην ἀνατομάς, παρόντος αὐτῷ αἰεὶ μὲν Εὐδήμου τε τοῦ περιπατητικοῦ καὶ Ἀλεξάνδρου τοῦ Δαμασκηνοῦ, τοῦ νῦν Ἀθηνησιν ἀξιουμένου τοὺς περιπατητικούς λόγους διδάσκειν δημοσίᾳ, πολλάκις δὲ καὶ ἄλλων ἀνδρῶν ἐν τέλει, καθάπερ καὶ τοῦδε τοῦ νῦν ἐπάρχου τῆς Ῥωμαίων πόλεως, ἀνδρὸς τὰ πάντα πρωτεύοντος ἔργοις τε καὶ λόγοις τοῖς ἐν φιλοσοφίᾳ, Σεργίου Παύλου ὑπάτου. τότε γοῦν ἐποίησα καὶ τὰς ἀνατομικὰς ἐγχειρήσεις τῷ Βοηθῷ, πολὺ τῶνδε τῶν νῦν μοι γραφησομένων ἀπολειπομένας, οὐ σαφηνεῖα μόνον, ἀλλὰ καὶ ἀκριβεῖα. Thus the passage refers to a first draft of the *On Anatomical Procedures*. Flavius Boethus, a Roman consul, was Galen's greatest patron in Rome. Note the harmonic sequence of terms referring to teaching and learning: διδάσκαλος-μαθητὴν-μαθητῶν-μαθητὴν-διδάσκειν.

⁶⁴ A famous physician of the first century BC, advocate of Atomist theories (14.250.9 K.; 17b.162.9 K.), he had evident influence on the Methodist school. He was the author of several commentaries on Hippocrates, to which Galen refers frequently.

⁶⁵ Galen, *De cris.* 3.8 (9.737.13 K.): ἐγὼ γοῦν καὶ τοιούτων ἐπειράθην ἰατρῶν οὐκ ὀλιγάκις οἷον θαυμαζόντων μὲν τὴν πρόγνωσιν ὅταν ἐπὶ τῶν ἀρρώστων εὐδοκιμοῦσαν θεάσωνται καὶ σπουδαζόντων μαθεῖν, ἐπειδὴν δὲ τις ἀρξάμενος αὐτοὺς διδάσκειν ἢ περὶ πέψεώς τι διεξέρχεται τῶν νοσημάτων ἢ περὶ ῥώμης φύσεως ἢ τῶν ἄλλων τινὸς ὧν χωρὶς οὐχ οἷόν τε τὴν περὶ τὰς κρίσεις θεωρίαν συστήναι “καὶ πῶς με

d. Galen confesses that he also had to deal with the cosmetic part of medicine: ‘To make the colour of the face whiter by means of drugs, or redder, or the hair of the head curly or red or black or, as women do, increased to become as long as possible – these matters and those of the same kind belong to the evil of the art of embellishment, and are not works of the medical art. Because of their association with it, sometimes royal women or the kings themselves command us also matters belonging to the art of embellishment, teaching them – people who cannot be refused – that the art of embellishment differs from the cosmetic part of medicine. Therefore it has seemed right to me to outline one after another the remedies for preserving and increasing hair written by Criton in the first book of the cosmetics.’⁶⁶

e. It is not possible to practise medicine as one should and make a profit at the same time: ‘Now, for what Hippocrates discovered over very much time, it was extremely easy, having learnt it in very few years, to apply the remaining time of my life for the discovery of the things that are lacking. However, it is not possible for someone who considers wealth more worthy than virtue, and who learns the art not for the sake of the good of mankind, but for lucre, to aim at the goal corresponding to the art. A <great number> of physicians manage to enrich themselves before we reach its goal. For it is not possible at the same time to make money and be a gold-digger, and to practise such a great

πείσεις” φασκόντων “ὥς ἐστί τις φύσις ἢ ὥς ἐπὶ σωτηρίᾳ πάντα πράττει τῶν ζώων ἢ ὥς ἐκείνης ἐκκρινούσης τὰ περιττώματα τῶν νόσων ἀπαλλάττονταί τινες ἢ ὥς τὸ θερμόν ἐστιν ἐν τοῖς ζώοις τὸ δραστικώτατον ἢ ὥς ἐκ θερμοῦ καὶ ψυχροῦ καὶ ξηροῦ καὶ ὕγρου κέκρται τὰ σώματα”;

⁶⁶ Galen, *De comp. med. sec. loc.* 1.2 (12.434.14-435.7 K.): τὸ μέντοι λευκότερον τὸ χρῶμα τοῦ προσώπου ποιεῖν ἐκ φαρμάκων ἢ ἐρυθρότερον ἢ τὰς τρίχας τῆς κεφαλῆς οὐλας ἢ πυρρὰς ἢ μελαίνας ἢ καθάπερ αἱ γυναῖκες ἐπὶ μήκιστον αὐξανομένης, ταῦτα καὶ τὰ τοιαῦτα τῆς κομωτικῆς κακίας ἐστίν, οὐ τῆς ἱατρικῆς τέχνης ἔργα. διὰ δὲ τὴν κοινωνίαν τούτων ἐνίοτε καὶ βασιλικαὶ γυναῖκες ἢ οἱ βασιλεῖς αὐτοὶ προστάττουσιν ἡμῖν καὶ τὰ τῆς κομωτικῆς, οἷς οὐκ ἔνεστιν ἀρνεῖσθαι διδάσκοντας διαφέρειν τὴν κομωτικὴν τοῦ κοσμητικοῦ μέρους τῆς ἱατρικῆς. διὰ τοῦτο οὖν ἔδοξέ μοι καὶ τὰ ὑπὸ Κρίτωνος γεγραμμένα φάρμακα διαφυλακτικὰ τριχῶν καὶ αὐξητικὰ κατὰ τὸ πρῶτον τῶν κοσμητικῶν ἐφεξῆς ὑπογράψαι. Criton, a Roman physician who lived around 100 AD and was an eclectic by orientation, wrote four books about cosmetics and five dedicated to remedies. Almost everything we know about him comes from our author (cf. 12.446.9 K.).

art, but by force those who rush towards the one with some vehemence, will despise the other.⁶⁷

6. General remarks about the teaching of medicine in his own times

a. It is significant that Galen rates oral teaching very highly: 'For only training and teaching according to description produce skilled craftsmen. And because of that it seems to me that the many are right who say that the best teaching is the one that takes place by means of the living voice, and that no-one can become either a ship's pilot or a craftsman in any other art on the basis of a book.'⁶⁸ For these (*sc.* the books) are memoranda for those who have learnt and come to know these things before, not a perfect teaching for the ignorant. And if some of those who lack a teacher should wish to read carefully the works written clearly and on the basis of description – as we do it – will benefit greatly, and in particular if they do not shrink from reading them many times.⁶⁹

⁶⁷ Galen, *Quod. opt. med.* (1.57.6-16 K.): τὰ γοῦν ὑφ' Ἱπποκράτους εὐρημένα χρόνῳ παμπόλλῳ ῥᾶστον ἦν ἐν ὀλιγίστοις ἔτεσιν ἐκμαθόντα τῷ λοιπῷ χρόνῳ τοῦ βίου πρὸς τὴν τῶν λειπόντων εὐρεσιν καταχρήσασθαι. ἀλλ' οὐκ ἐνδέχεται πλοῦτον ἀρετῆς τιμιώτερον ὑποθέμενον καὶ τὴν τέχνην οὐκ εὐεργεσίας ἀνθρώπων ἔνεκεν ἀλλὰ χρηματισμοῦ μαθόντα τοῦ τέλους τοῦ κατ' αὐτὴν ἐφίεσθαι, <καλῶς κἂν εἰ> φθάσουσί γ' ἰατροὶ <πλείστοι> πλουτήσῃ πρὶν ἢ <ρέ>μας ἐπὶ τὸ τέλος αὐτῆς ἐξικέσθαι· οὐ γὰρ δὴ δυνατόν ἅμα χρηματίζεσθαι τε καὶ μυρμηκίζεσθαι καὶ οὕτω μεγάλην ἐπασκεῖν τέχνην, ἀλλ' ἀνάγκη καταφρονῆσαι θατέρου τὸν ἐπὶ θάτερον ὀρμήσαντα σφοδρότερον.

⁶⁸ Galen uses the term κυβερνήτης fifteen times in his works. In four passages he offers the maxim about the 'book pilot', i.e. one who has not faced the reality of the sea (6.480.6 K.; 11.797.1 K.; 13.605.4 K.; 19.33.6 K.): in the two last examples he points out that it is a proverb. I thank Prof. Roselli for her comment on the precedents of this phrase in Polybius (12.25d.6: ὅμοιοι τοῖς ἐκ βυβλίου κυβερνῶσιν) and Philodemus (cf. Roselli 2002). The paroemiographers, on the other hand, have not included it in their lists.

⁶⁹ Galen, *De alim. facult.* 1.1 (6.480.3-11 K.): μόνη γὰρ ἡ κατὰ διέξοδον ἄσκησις τε καὶ διδασκαλία τεχνίτας ἀπεργάζεται. καὶ διὰ τοῦτό μοι δοκοῦσι καλῶς οἱ πολλοὶ λέγειν ἀρίστην εἶναι διδασκαλίαν τὴν παρὰ τῆς ζώσης φωνῆς γιγνομένην, ἐκ βιβλίου δὲ μήτε κυβερνήτην τινὰ δύνασθαι γενέσθαι μήτ' ἄλλης τέχνης ἐργάτην· ὑπομνήματα γάρ ἐστι ταῦτα τῶν προεμαθηκότων καὶ προεγνωκότων, οὐ διδασκαλία τελεῖα τῶν ἀγνοούντων. εἴ γε μὴν ἐθέλοιέν τινες καὶ τούτων, ὅσοι διδασκάλων ἀποροῦσιν, ἐντυχάνειν ἐπιμελῶς τοῖς σαφῶς τε καὶ κατὰ διέξοδον, ὁποῖαν ἡμεῖς ποιούμεθα, γεγραμμένοις, ὀνήσονται μεγάλως, καὶ μάλιστα ἐὰν πολλάκις ἀναγινώσκειν αὐτὰ μὴ ὀκνῶσιν. Let me draw attention to the accumulation of terms referring to teaching: διδασκαλία-διδασκαλίαν-διδασκαλία-διδασκάλων. We find it represented also in προεμαθηκότων ('those who have learnt beforehand'). The construction διδασκαλία...

In another passage, Galen stresses this, underlining the importance of the direct relationship of oral teaching between teacher and pupil: 'For I censured those who first put in writing the forms of plants, believing it to be better that one who is learning become an eyewitness together with the one who is teaching, and do not resemble a 'book pilot'. For in this way the teaching would be accomplished by the teachers in a more truthful and clearer way – not just of plants alone, or shrubs or trees, but also of all the other remedies.'⁷⁰

b. Usefulness is an essential criterion for the teaching and studying of the medical disciplines: 'Not for themselves do we learn or teach or, in a word, listen to, all the other matters relating to the art, but because each of them becomes useful, as for example the diagnostic part of the art, which the more recent physicians call semiotic. It is necessary for those who intend to practise medicine well to exercise it before the therapeutic part, in order to know exactly the differences between affections when they have similarities.'⁷¹

τῶν ἀγνοούντων is to be understood as 'teaching the ignorant', that is, with an objective genitive that would, if we had the corresponding verb, be the equivalent of a direct object: 'teaching to the ignorant'. The adjective τελεία, 'complete', 'perfect', is not often applied to διδασκαλία, but we find it also at 9.22.12 K.; 15.3.7 K.; 19.10.19 K. Note our author's advice: Those who lack a teacher can benefit from reading, many times, writings expertly composed by him.

⁷⁰ Galen, *De simp. med. temp. ac fac.* 6. proo. (11.797.3 K.): ἐγὼ μὲν γὰρ ἐμεμφομένη τοῖς πρῶτως γράψαι τὰς ιδέας τῶν βοτανῶν, ἄμεινον ἡγούμενος αὐτόπτην γενέσθαι παρ' αὐτῷ τῷ διδάσκοντι τὸν μανθάνοντα καὶ μὴ τοῖς ἐκ τοῦ βιβλίου κυβερνήταις ὁμοιωθῆναι. καὶ γὰρ ἀληθέστερον οὕτω καὶ σαφέστερον ἢ διδασκαλία περαῖνοι ἂν ὑπὸ διδασκάλων οὐ βοτανῶν μόνων ἢ θάμνων ἢ δένδρων, ἀλλὰ καὶ τῶν ἄλλων ἀπάντων φαρμάκων. For the adjective αὐτόπτης, cf. what has been said in note 25. Note furthermore the accumulation of terms referring to education and learning: διδάσκοντι-μανθάνοντα-διδασκαλία-διδασκάλων. It is also worth pointing out the extended and detailed objective genitive modified by διδασκαλία, i.e. plants, shrubs, trees and other remedies – that is, the general study of botany, which is so necessary when compounding remedies, and, on the other hand, the drugs that are not of vegetal origin.

⁷¹ Galen, *In Hipp. Off. Med. comment.* 1.1 (18b.633.8-15 K.): οὐ δι' ἑαυτὰ δὲ τὰ ἄλλα πάντα τὰ κατὰ τὴν τέχνην ἢ μανθάνομεν ἢ διδάσκομεν ἢ ὅλως ἀκούομεν, ἀλλ' ὅτι τῷ τέλει χρήσιμον ἕκαστον αὐτῶν γίγνεται: οἷον εὐθέως τὸ διαγνωστικὸν μέρος τῆς τέχνης, ὃ καλοῦσιν οἱ νεώτεροι σημειωτικόν, ἀναγκαῖον ἐστὶν ἡσκήσθαι, πρότερον τοῦ θεραπευτικοῦ τοῖς μέλλουσι καλῶς ἰατροῦειν ἕνεκα τοῦ τὰς διαφορὰς τῶν νοσημάτων ἐπὶ τῶν καμνόντων ἀκριβῶς γνωρίζειν, ἐπειδὴν ἔχῃσι τὸ παραπλήσιον. Three different, but complementary, steps in the learning/teaching of the medical art: learning-teaching-listening. The usefulness (χρήσιμον) of each of these parts of medicine is the decisive criterion; diagnosis must precede the therapeutic part; in order to know the differences between illnesses, it is necessary first to know what makes

Another example: 'In the current book, the one present, let us first explain the useful itself, as we have done in all the treatises, so that one actually holding it and reaping profit out of the abundance, may learn to refute the trumpery of the sophists. For since it is possible for those who are being introduced to the art to learn thoroughly the other things without their enormous nonsense, it is possible for them to learn with accuracy by action from the teaching itself the entire nature of the (sc. critical) days, and yet it is impossible to keep away altogether from their nonsense which is so widely published.'⁷²

c. Particularly interesting are his critical references to the teaching and study of medicine in his own days: 'The majority of those who are now pursuing medicine or philosophy, not able to read well, resort to those who are going to teach them the greatest and most beautiful precepts among men, the theories that philosophy and medicine teach. This self-indulgence started many years ago, when I was still a youth, but at that time it had not proceeded to the point to which it has increased now. Now because of this and because many mutilated my books in many ways, and others among other groups were reading them as their own, after taking some things out, adding some and modifying others, I

them similar (τὸ παραπλήσιον). The reference to the 'more recent' doctors, Galen's contemporaries, is relevant. The comparative νεώτεροι of the adjective νέος is already present in the Homeric epics (*Il*.21.439) with the meaning of 'younger' or simply 'young'. In the Hellenistic and Imperial periods, on the other hand, it acquires a new semantic quality: now οἱ νεώτεροι are 'the younger, more recent ones', referring to the period and not the persons's age. It is used in this way beginning from the first century BC: Philodemus (*Mus.* 4.36.35), Aristonicus, Strabo, etc. Our author uses it frequently in the new sense. What is of extreme importance is the mention of the diagnostic part of medicine called 'semiotic' (σημειωτικόν) by the doctors who were Galen's contemporaries. He mentions the adjective twice, but only here with this meaning. It is a specialist term, especially in medicine, as we read it in Archigenes (1), Erotian (3) and Pseudo-Dioscorides. Pseudo-Galen also uses it on six occasions, all in the spurious *Introduction*.

⁷² Galen, *De diebus decr.* 1.4 (9.789.17-790.9 K.): ἐν δέ γε τῷ νῦν λόγῳ τῷ ἐνεστῶτι τὸ χρήσιμον αὐτὸ διέλθωμεν πρότερον, ὥσπερ ἐν ἀπάσαις ἐποιησάμεθα ταῖς πραγματείαις, ἵν' ἡδὲ τις ἔχων τοῦτο καὶ καρπούμενος ἐκ περιουσίας ἐλέγχειν μάθῃ τοὺς λήρους τῶν σοφιστῶν. τά τε γὰρ ἄλλα καὶ ὥς ἄνευ τῆς φλυαρίας αὐτῶν τῆς μακρᾶς ἐνεστὶν ἐκμαθεῖν τοῖς εἰσαγομένοις εἰς τὴν τέχνην ἅπασαν ἀκριβῶς τῶν ἡμερῶν τὴν φύσιν ἐξ αὐτῆς τῆς διδασκαλίας ἔργῳ μαθεῖν ἔστι, καίτοι γε παντάπασιν ἀπέχεσθαι τῆς φλυαρίας αὐτῶν οὕτω δεδημοσιευμένης ἀδύνατον. Let me emphasize that the criterion of usefulness can be definitive for refuting the theories of the sophists. It is very important, therefore, that those being initiated into medicine possess it. NB, also, the accumulation of vocabulary referring to teaching and learning: μάθη-ἐκμαθεῖν-διδασκαλίας-μαθεῖν.

believe that it is better to disclose first the reason for the mutilating
⁷³

Our author criticizes severely those who adulate the powerful and greet them in a fawning way, as well as those who promise to teach the art of medicine in a very short time. The following is an interesting passage: 'The calamity that is common to all the arts has taken hold of the present life. That of medicine is varied, but I have decided to choose one of its branches, of those that are most relevant to me. For when some physician of those who have learnt it according to the rule, has predicted either a sick person's future delirium, or shivering, or a lethargic attack, or haemorrhage, or a swelling of the parotid gland, or another abscess in any other part, or vomiting, or sweating, or impending disturbance of the bowels, or fainting, or some other affection of this kind, it appears strange and a marvel to lay people because of their inexperience, and so far from the one who made the prediction being admired among them, he can count himself lucky if he is not also considered to be some kind of trickster. Few among them do not condemn him, considering such observation impossible. They immediately ask both the man who predicted and the other physicians if such a thing had been discovered by the forefathers, or whether it was only the discovery of the man who made the prediction. Now, thereupon it becomes necessary for the doctors to hide their lack of learning – some perhaps being actually ignorant – saying that no such thing has been written down by the forefathers, and that one who has demonstrated such a prediction is a trickster.'⁷⁴

⁷³ Galen, *De libr. propr.* pr. (19.9.7-18 K.): οἱ πολλοὶ δὲ τῶν νῦν ἰατρικὴν ἢ φιλοσοφίαν μετιόντων οὐδ' ἀναγνῶναι καλῶς δυνάμενοι φοιτῶσι παρὰ τοὺς διδάξοντας τὰ τε μέγιστα καὶ κάλλιστα τῶν ἐν ἀνθρώποις, τὰ θεωρήματα, ἃ φιλοσοφία τε καὶ ἰατρικὴ διδάσκουσιν. ἤρκετο μὲν οὖν ἡ τοιαύτη ῥαδιουργία πρὸ πολλῶν ἐτῶν, ἡνίκ' ἔτι μειράκιον ἦν ἐγώ, οὐ μὴν εἰς τοσοῦτόν γ', εἰς ὅσον νῦν ἡϋζήται, προεληλύθει τὸ κατ' ἐκείνον τὸν χρόνον. διὰ τ' οὖν αὐτὸ τοῦτο καὶ διότι πολυειδῶς ἐλωβήσαντο πολλοὶ τοῖς ἐμοῖς βιβλίοις, ἄλλοι κατ' ἄλλα τῶν ἐθνῶν ἀναγινώσκοντες ὡς ἴδια μετὰ τοῦ τὰ μὲν ἀφαιρεῖν, τὰ δὲ προστιθέναι, τὰ δ' ὑπαλλάττειν, ἄμεινον ἡγοῦμαι δηλῶσαι πρῶτον αὐτοῦ τοῦ λελωβῆσθαι τὴν αἰτίαν... It is worth noting our author's sharp critique of those who prepare themselves to study medicine or philosophy without being able to read well. Shortly after this passage, Galen refers to the notes that he had conveyed to his pupils without giving them a title, since he had not prepared them for publication. I recommend reading the entire context carefully, as it is of great importance for the fundamental objective of this Colloquium – the teaching and study of medicine.

⁷⁴ Galen, *De praecogn.* 1 (14.600.17-602.2 K.): αὕτη μὲν οὖν κοινὴ τῶν τεχνῶν ἀπασῶν δυστυχία κατείληφε τὸν νῦν βίον. ἡ δὲ τῆς ἰατρικῆς ἐστὶ μὲν πολυειδής, ἀλλ' ἔν τι τῶν κατ' αὐτὴν ἔγνωκα προχειρίσασθαι τῶν ἐμοὶ μάλιστα διαφερόντων. ὅταν

d. Galen speaks of the anatomists (ἀνατομικοί) or experts in dissection: 'Certainly one must not enter into discussion with those men, nor show that one is ambitious, because not only can anatomy by accident and 'traumatic' observation – for these are their words – not teach exactly the nature of each of the parts, but neither can as a special study, without having practised many times in many aspects, with the precepts that I am now going through in detail in this treatise.'⁷⁵

Here is another passage about the educational function of dissection: 'The part of anatomy that is performed on the dead animal teaches the position of each of the parts, their number, the peculiar nature of their substance, their size and their shape and composition.'⁷⁶

e. Galen's remarks about the teaching of medicine in the various schools of his time are of enormous relevance for the history of

γάρ τις ἱατρὸς τῷ νόμῳ μεμαθηκότων αὐτὴν, ἢ παραφροσύνην ἐσομένην ἐπινοοῦντος, ἢ ῥίγος, ἢ καταφορὰν, ἢ αἰμορραγίας, ἢ παρωτίδας, ἢ ἀπόστασιν ἄλλην ἐς ὅτιοῦν μέρος, ἢ ἔμετον, ἢ ἰδρώτας, ἢ κοιλίαν ταραχθισομένην, ἢ συγκοπήν, ἢ τι τῶν τοιούτων προείπῃ ἄλλο, ξένον τε καὶ τέρας τοῖς ἰδιώταις ὑπ' ἀληθείας φαίνεται καὶ τοσοῦτον ἀποδεῖ τοῦ θαυμάζεσθαι παρ' αὐτοῖς ὁ προειπὼν, ὥστε ἀγαπήσειεν ἂν, εἰ μὴ καὶ γόης τις εἶναι δόξειεν. ὀλίγοι δέ τινες αὐτῶν οὐκ ἀπογινώσκουσι μὲν, ὡς ἀδυνάτου τῆς τοιαύτης θεωρίας ἐρωτῶσι δ' εὐθέως καὶ αὐτὸν τὸν προειπόντα καὶ τοὺς ἄλλους ἱατροὺς, εἰ καὶ τοῖς ἔμπροσθεν εὖρηται τι τοιοῦτον, ἢ μόνον αὐτοῦ τοῦ προειπόντος ἐστὶν εὖρημα. τούντεῦθεν οὖν ἀναγκαῖον γίγνεται τοὺς μὲν ἱατροὺς ἀποκρυπτομένους σφετέραν ἀμαθείαν, ἴσως δέ τινας καὶ ὄντως ἀγνοοῦντας, οὐδενὶ φάναι τῶν ἔμπροσθεν οὐδὲν τοιοῦτο γεγράφθαι, γόητα δ' εἶναι τὸν ἐπιδεικνύμενον τοιαύτην πρόρρησιν. The passage reflects the surprise that a successful prognosis, made by someone who had studied medicine according to the rule, caused among the ignorant and laymen. We can see the overt opposition between the man who has studied medicine properly and the 'doctors' who endeavour to dissemble their ignorance. It is worth noting the accumulation of terms referring to medicine and its study: ἱατρικῆς-ἱατρός-μεμαθηκότων-ἱατρούς-ἀμαθείαν.

⁷⁵ Galen, *De anat. admin.* 2.3 (2.289.15 K.): οὐκουν χρὴ διὰ λόγων ἰέναι τοιούτοις ἀνδράσιν, οὐδὲ φιλοτιμείσθαι δεικνύνειν, ὡς οὐ μόνον ἡ κατὰ περίπτωσιν ἀνατομὴ καὶ τραυματικὴ θέα, ταῦτα γὰρ ἐκείνων τὰ ῥήματα, διδάσκειν ἀκριβῶς ἐκάστου τῶν μορίων τὴν φύσιν οὐχ οἷα τέ εἰσιν, ἀλλ' οὐδὲ κατ' ἐπιτήδευσιν, ἄνευ τοῦ πολλάκις ἐπὶ πολλῶν γεγυμνάσθαι μετὰ παραγεγυμμάτων, ὧν ἐγὼ κατὰ τήνδε τὴν πραγματείαν διέρχομαι. Let me highlight the educational potential of 'wound (or traumatic) observation', an expression which we find two more times, at 2.225.17 K. and 13.609.2 K. Cf. note 89.

⁷⁶ Galen, *De anat. admin.* 9.1 (2.707.5 K.): τῆς ἀνατομῆς ἡ μὲν ἐπὶ τεθνεώτος τοῦ ζώου γιγνομένη τὴν τε θέσιν ἐκάστου τῶν μορίων διδάσκει, τὸν τ' ἀριθμὸν, καὶ τῆς οὐσίας τὴν ἰδιότητα, μέγεθος τε καὶ σχῆμα καὶ σύνθεσιν·

medicine and science.⁷⁷ This is a vast field, out of which I have chosen just one example. This is what the Pergamene has to say about the Empiricists: ‘They say that from wounds that occur on each occasion one can learn sufficiently about their nature. One would marvel at their temerity. For given that even those who have come to their dissection with much industry have not accomplished a perfect observation, much less would anyone be taught by looking at wounds. Now someone sitting loftily on his teacher’s chair can say these things to his pupils, but he cannot teach them about the works of the art, when he himself is the first to be ignorant of all the mentioned organs of the animal. Those who are considered altogether experts among them only know the things that show clearly beneath the skin.’⁷⁸

7. Critique of those who have not read the Hippocratic books with teachers

Let me give an example. Galen says about Theon of Alexandria:⁷⁹ ‘For he did not read the writings of the ancient one (*sc.* Hippocrates) with

⁷⁷ For what concerns the Methodists, I refer to López Férez 1991. Here I present a passage in which Galen – referring to the Methodists – points to their philosophical postulates regarding the condition (ἔκθεσις) of softness (μαλακότης) or porosity (ἀραιότης). Both qualities doubtless have medical resonances (*De sectis* 9 [1.96.15-97.5 K.]): ‘It is impossible to hear anything clear when they speak, but whatever comes to their mind, now this, then that, and often everything at once, as if these things differed in no way. And if someone tried to teach them how these things differ from one another, and how each of them needs its own treatment, they not only cannot bear to listen, but they also rebuke the Ancients as having distinguished between these states in vain. (οὐδὲ γὰρ ἔστιν ἀκοῦσαι τι σαφὲς οὐδὲν αὐτῶν λεγόντων, ἀλλ’ ὅ τι ἂν ἐπέλθῃ, νῦν μὲν τοῦτο, αὖτις δ’ ἐκείνο, πολλάκις δὲ καὶ πάνθ’ ἅμα, ὥσπερ οὐδὲν διαφέροντα, καὶ εἴ τις ἐπιχειρήσειε διδάσκειν αὐτούς, ὅπη διαφέρει ταῦτ’ ἀλλήλων καὶ ὥς ἕκαστον αὐτῶν ἰδίας δεῖται θεραπείας, οὐ μόνον οὐχ ὑπομένουσιν ἀκοῦειν ἀλλὰ καὶ τοῖς παλαιοῖς ἐπιπλήττουσιν ὡς μάτην τὰ τοιαῦτα διοριζομένοις).

⁷⁸ Galen, *De anat. admin.* 2.3 (2.289.1-12 K.): ἐκ δὲ τῶν ἐκάστοτε γιγνομένων τραυμάτων αὐτάρκως διδάσκεσθαι φασὶ τὴν φύσιν αὐτῶν. τούτους μὲν γε θαυμάσειεν ἂν τις τῆς προπετείας, ὅπου γὰρ οὐδ’ οἱ μετὰ σχολῆς πολλῆς ἐπὶ τὴν ἀνατομὴν αὐτῶν ἐλθόντες ἠκριβώκασιν τὴν θεωρίαν, σχολῇ γε ἂν τις ἐκ τῆς τῶν τραυμάτων θέας διδασθεῖν. ταῦτ’ οὖν ἐπὶ μὲν τοῦ θρόνου τις ὑψηλὸς καθήμενος δύναται λέγειν τοῖς μαθηταῖς, ἐπ’ αὐτῶν δὲ τῶν ἔργων τῆς τέχνης οὐ δύναται διδάξαι, πρῶτος αὐτὸς ἀγνοῶν ἅπαντα τῶν εἰρημένων ὀργάνων τοῦ ζώου τὰ μόρια· μόνα γὰρ, ὅσα προφανῶς ὑπὸ τῷ δέρματι φαίνεται, γινώσκουσιν οἱ πάντῃ δοκοῦντες αὐτῶν εἶναι τρίβωνες.

⁷⁹ An author of the first decades of the second century AD, who wrote a treatise entitled *About Gymnastic Exercises, One After Another*. He was originally an athlete, and then became an expert on gymnastics.

teachers beginning from childhood. Now, he himself admits that he was at first an athlete and, having given up exercise, came to the art of gymnastics ...’⁸⁰

8. *Some information about the acquiring of medical knowledge*

a. Galen points out that the era of Hippocrates differed considerably from what was happening in his own days: ‘Because at the time of Hippocrates those who practised medicine had learnt the art according to custom, and especially with respect to surgical techniques of that kind. Those who live now, on the other hand, do not learn it completely, or learn it in little time altogether. Then, with the experience of wrestling bouts, it advanced to an amazing extent, when those who explain the limbs twist and turn them in various ways. Now, you will ask, as I said, not why I mentioned so many, but why I did not see more in so many thousand people who were brought to such luxations by large numbers of gymnastic trainers and a great many ignorant physicians.’⁸¹

b. Our author contrasts the deficient teaching of medicine as carried out by others in his own day with the way in which he personally studied and trained in his discipline. He criticizes trenchantly certain practices current among physicians of his era, most of all the large amount of time that they waste on social intercourse: ‘But now the majority attempt to teach others things that they themselves never practised nor demonstrated to others. Now, there is nothing astonishing about the fact

⁸⁰ Galen, *De san. tuenda* 2.4 (6.114.10 K.): οὐ γὰρ ἀνέγνω τὰ συγγράμματα τοῦ παλαιοῦ παρὰ διδασκάλοις εὐθὺς ἐκ παίδων ὀρμώμενος. ὁμολογεῖ γοῦν αὐτὸς ἀθλητῆς γενέσθαι τὰ πρῶτα, καταλύσας δὲ τὴν ἄσκησιν ἐπὶ τὴν γυμναστικὴν ἀφικέσθαι τέχνην. The genitive ἐκ παίδων is to be understood as ‘from childhood’, ‘barely out of childhood’, i.e. at the beginning of adolescence – which would be the equivalent of fourteen years of age.

⁸¹ Galen, *In Hipp. Artic. comment.* 1.22 (18a.349.1-10 K.): ἐπὶ γάρ τοι τῶν Ἱπποκράτους χρόνων οἱ ἰατρούοντες ἐμεμαθήκεισαν νομίμως καὶ μάλιστα περὶ τὰς τοιαύτας χειρουργίας τέχνην. οἱ δὲ νῦν μὴ μαθόντες ὅλως ἢ παντάπασιν ὀλίγῳ χρόνῳ μαθόντες εἴτα τῶν παλαισμάτων τῇ ἐμπειρίᾳ θαυμαστὸν ὅσον ἐπιδέδωκε τῶν διδασκόντων αὐτὰ πολυειδῶς ἐκστρεφόντων καὶ λυγίζόντων τὰ κῶλα. ζητήσεις οὖν, ἔφην, οὐ διὰ τί τοσούτους εἶπον, ἀλλὰ διὰ τί πλείους οὐκ εἶδον ἐν τοσαύταις μυριάσιν ἀνθρώπων ὑπὸ πολλῶν μὲν παιδοτριβῶν, παμπόλλων δὲ ἰατρῶν ἀμαθῶν εἰς τοιαύτας ἐξαρθρήσεις ἀγομένων. Again we find various terms relating to the teaching and learning of medicine: ἐμεμαθήκεισαν-μαθόντες-μαθόντες-διδασκόντων-ἀμαθῶν.

that many of the physicians, neglecting good custom, strive for the conceit of wisdom rather than for the truth. With me, on the other hand, it is not like this. For not yesterday or the day before, but right away from when I was a youth, in love with philosophy, I came to it for the first time. Then, later, my father having been impelled by manifest dreams, I arrived at the practice of medicine, and for all my life I have zealously pursued the knowledge of each of them, by actions rather than by words. Now, this is not surprising, given that in all the time in which others make their greetings, running about the entire city in a circle, and have dinner with others, and attend to the rich and the powerful, I, taking pains, at first studied thoroughly what has been well discovered by the Ancients, and then, by my actions, I judged and, at the same time, practised it.⁸²

In another passage he returns to what is said above, adding some detail about why many of those who practise medicine or philosophy fail: 'Then (*sc.* my father) having been impelled by manifest dreams, he made me, at the age of seventeen, train in medicine together with philosophy. But even though I had such good luck and learnt thoroughly and faster than all the others whatever I was taught – if I had not dedicated my entire life to the practice of the investigations belonging to medicine and philosophy, I would not have known anything important. Therefore it is not surprising that a great number of people who practise medicine and philosophy do not bring either to a successful issue. For either they did not have good natural ability, or they were not educated as appropriate, or they did not persist in the

⁸² Galen, *De meth. med.* 9.4 (10.609.2-16 K.): νυνὶ δ' οἱ πλεῖστοι διδάσκειν ἄλλους ἐπιχειροῦσιν ἅ μήτ' αὐτοὶ ποτ' ἔπραξαν μήτ' ἄλλοις ἐπεδείξαντο. τοὺς μὲν οὖν πολλοὺς τῶν ἱατρῶν οὐδὲν θαυμαστὸν ἀμελήσαντας ἥθους χρηστοῦ δοξοσοφίαν μᾶλλον ἢ ἀλήθειαν σπουδάσαι. τὸ δ' ἡμέτερον οὐχ ὥδ' ἔχει. οὐ γάρ δι' ἡμέρας ἢ πρώην, ἀλλ' εὐθὺς ἐκ μειρακίου φιλοσοφίας ἐρασθέντες ἐπ' ἐκείνην ἥξαμεν πρῶτον. εἴθ' ὕστερον τοῦ πατρὸς ὄνειράσιν ἐναργέσι προτραπέντος ἐπὶ τὴν τῆς ἱατρικῆς ἀσκήσιν ἀφικόμεθα καὶ δι' ὅλου τοῦ βίου τὰς ἐπιστήμας ἐκατέρας ἔργοις μᾶλλον ἢ λόγοις ἐσπουδάσαμεν. οὐδὲν οὖν θαυμαστὸν ἐν ᾧ προσαγορεύουσιν ἄλλοι, περιθέοντες ὅλην τὴν πόλιν ἐν κύκλῳ καὶ συνδειπνοῦσι καὶ παραπέμπουσι τοὺς πλουτοῦντάς τε καὶ δυναμένους, ἐν τούτῳ τῷ χρόνῳ παντὶ φιλοπονοῦντας ἡμᾶς ἐκμαθεῖν μὲν πρῶτον ὅσα καλῶς εὖρηται τοῖς παλαιοῖς, ἔπειτα διὰ τῶν ἔργων αὐτὰ κρίναί τε ἅμα καὶ ἀσκήσαι. Note the implicit contrast between those who intend to teach (διδάσκειν... ἐπιχειροῦσιν) and that which Galen himself achieved, i.e. learning thoroughly (ἐκμαθεῖν), judging and practising medicine.

training, but they turned away towards the activities proper to the city.⁸³

c. The Pergamene frequently attacks the followers of the medical and philosophical sects: ‘Thus, not only do those who are slaves to the sects not know anything sound, but they also cannot bear to learn. For, given that it is necessary to hear the cause for which the humour can enter the bladder through the ureters, and on the other hand, it is not possible for it to issue backwards by the same way, and to marvel at the art of nature, they do not want to learn, and furthermore use reproaches, stating that many other things as well as the kidneys were created in vain by it.’⁸⁴

Here is another passage in which Galen comes down hard on the followers of sects: ‘Why yes, people admire one this, one the other physician and philosopher, having neither learnt their doctrines nor trained in the demonstrative knowledge, by which they could distinguish false discourses from true ones, but some do so because they have fathers – others teachers and others friends – who are either

⁸³ Galen, *De ord. libr. suor.* (19.59.9-60.2 K.) : εἴτ' ἐξ ὀνειράτων ἐναργῶν προτραπεῖς ἐπτακαίδέκατον ἔτος ἄγοντας καὶ τὴν ἰατρικὴν ἐποίησεν ἀσκεῖν ἅμα τῇ φιλοσοφίᾳ. ἀλλὰ καὶ τοιαύτην ἐγὼ τὴν εὐτυχίαν εὐτυχίσας ἐκμανθάνων τε καὶ θᾶττον ἀπάντων τῶν ἄλλων ὃ τι περ [ἂν] ἐδιδασκόμην, εἰ μὴ τὸν ὅλον μου βίον εἰς τὴν τῶν <ἐν> ἰατρικῇ τε καὶ φιλοσοφίᾳ θεωρημάτων ἀσκήσιν καθεστήκειν, οὐδὲν ἂν ἔγνω μὲγα. μηδὲν τοίνυν μηδὲ τοῦτο θαῦμα, διότι πολὺ πλῆθος ἀνθρώπων ἀσκούντων ἰατρικὴν τε καὶ φιλοσοφίαν ἐν οὐδετέρᾳ κατορθοῦσιν· ἡ γὰρ οὐκ ἔφυσαν καλῶς ἢ οὐκ ἐπαιδεύθησαν ὥς προσήκειν, ἢ οὐ κατέμειναν ἐν ταῖς ἀσκήσεσιν ἀλλ' ἐπὶ τὰς πολιτικὰς πράξεις ἀπετράποντο. Let me point to the perfect harmony between terms from the semantic field of education and the mention of medicine. The sequence is: ἰατρικὴν-ἐκμανθάνων-ἐδιδασκόμην-ἰατρικῇ-ἰατρικὴν-ἐπαιδεύθησαν. Galen points out that all that he learnt would have been of no use to him without constant training (ἀσκήσιν), a point on which he insists later, implying that this is something that is lacking in others (ἀσκήσεσιν). Our author postulates three solid foundations for achieving command of medicine (and of philosophy): being naturally gifted, receiving an adequate education and persisting in practice.

⁸⁴ Galen, *De fac. nat.* 1.13 (2.35.4-14 K.): οὕτως οὐ μόνον ὑγιὲς οὐδὲν ἴσασιν οἱ ταῖς αἰρέσεσι δουλεύοντες, ἀλλ' οὐδὲ μαθεῖν ὑπομένουσι. δέον γὰρ ἀκοῦσαι τὴν αἰτίαν, δι' ἣν εἰσέναι μὲν δύναται διὰ τῶν οὐρητήρων εἰς τὴν κύστιν τὸ ὑγρόν, ἐξιέναι δ' αὐθις ὀπίσω τὴν αὐτὴν ὁδὸν οὐκέθ' οἷόν τε, καὶ θαυμάσαι τὴν τέχνην τῆς φύσεως, οὔτε μαθεῖν ἐθέλουσι καὶ λοιδοροῦνται προσέτι μάτην ὑπ' αὐτῆς ἄλλα τε πολλὰ καὶ τοὺς νεφροὺς γεγονέναι φάσκοντες. This passage may contain an indirect reference to Asclepiades of Bithynia, given that both he (2.30.15 K.; 31.6 K.) and his followers (2.34.3 K.) have been mentioned slightly earlier. For Asclepiades, cf. note 64.

Empiricists or Dogmatists or Methodists, or because in their city someone from that sect was admired.⁸⁵

d. Elsewhere we find remarks about the disinterest in learning that was fairly widespread among physicians of his time: '(sc. One needs to), on the other hand, censure those who are so lazy that they cannot bear to learn any of the things that are correctly said, as well as those who are ambitious to such a degree that they are always scheming and devising something in their desire for new doctrines, readily neglecting some – as Erasistratus did concerning the humours – and knavishly contradicting others – like this same man and many others of the more recent physicians.'⁸⁶

e. The following, fairly extensive, text, highlights the difficulties encountered by young men, who have studied medicine with different schools, at the moment of taking their patients' pulse: 'Now, when by saying merely the main points I have now filled an entire book, not discussing even all the stated definitions, is it not obvious that three or four books would be filled by one who wants to explain them all? Well, consider then that they have been filled, and that some youth who, having come upon a sophist babbler eager to say it all and not omit any of the things said by the physicians, learns these things thoroughly over a long time and painstakingly, and that, at the bedside of a sick man he encounters some other youth, who has learnt with another teacher how one needs to distinguish every one of the types of pulse, and what they reveal by their nature: Which of the two do you think will discover something useful for the art as far as the prognosis for the sick man is concerned? Or which of the two do you think will be highly esteemed both by the patient and by those present? For the one youth will spin out long discourses about how one needs to define the pulse, but he will ignore completely if the patient is safe or in danger, and whether his

⁸⁵ Galen, *De ord. libr. suor.* (19.50.10 K.): θαυμάζουσι γοῦν ἄλλος ἄλλον ἱατρῶν τε καὶ φιλοσόφων οὔτε τὰ αὐτῶν μεμαθηκότες οὔτε ἐπιστήμην ἀσκήσαντες ἀποδεικτικὴν, ἢ διακρίναι δυνήσονται τοὺς ψευδεῖς λόγους τῶν ἀληθῶν, ἀλλ' ἔνιοι μὲν ὅτι πατέρας ἔσχον ἦτοι γ' ἐμπειρικοὺς ἢ δογματικοὺς ἢ μεθοδικούς, ἔνιοι δ' ὅτι διδασκάλους, ἄλλοι δ' ὅτι φίλους ἢ διότι κατὰ τὴν πόλιν αὐτῶν ἐθαυμάσθη τις ἀπὸ τῆσδε τῆς αἰρέσεως.

⁸⁶ Galen, *De fac. nat.* 2.9 (2.141.15 K.): μέμφεσθαι δὲ τοὺς οὕτως ἀταλαιπώρους, ὡς μηδὲν ὑπομένειν μαθεῖν τῶν ὀρθῶς εἰρημένων, καὶ τοὺς εἰς τοσοῦτον φιλοτίμους, ὥστ' ἐπιθυμίᾳ νεωτέρων δογμάτων αἰεὶ πανουργεῖν τι καὶ σοφίζεσθαι, τὰ μὲν ἐκόντας παραλιπόντας, ὥσπερ Ἑρασίστρατος ἐπὶ τῶν χυμῶν ἐποίησε, τὰ δὲ πανούργως ἀντιλέγοντας, ὥσπερ αὐτός θ' οὗτος καὶ ἄλλοι πολλοὶ τῶν νεωτέρων.

illness would happen to continue for a long time or come to a crisis quickly. The other youth will prognosticate these things accurately, and will predict them for those present, but he will not know how to define the pulse. From the comparison one will thus manifestly discern which aspect of teaching is useless and which is useful. But, as the proverb says, “War is sweet for the inexperienced.”⁸⁷ That is how those seem to me who, preferring to define everything, do not know at all the investigations by the dialecticians about how it is appropriate to define.⁸⁸

f. Discussing the necessity of observing every part of the muscles, Galen provides us with a few details about how dissection is studied. In a fairly long passage the author reports how Satyrus performed dissections in Pergamum, exposing some parts of the body: ‘Now, I understand clearly from this that for those who have already received explanations beforehand the observation of wounds confirms what they

⁸⁷ According to the *TLG*, Galen is the only author in Greek literature to record this maxim. We find it, with a different word order (γλυκὺς ἀπείρῳ (or ἀπείρων) πόλεμος), in some of the paroemiographers: Diogenianus (second century AD), Gregory of Cyprus (twelfth century), Macarius and Apostolius (both fifteenth century).

⁸⁸ Galen, *De diff. puls.* 4.17 (8.762.4.7 K.): ὁπότ' οὖν τὰ κεφάλαια μόνον αὐτὰ λέγων ἐγὼ νῦν ἐπλήρωσα ὅλον βιβλίον, οὐδ' οὖν οὐδὲ πάντας ἐπελθὼν τοὺς εἰρημένους ὅρους, ἄρ' οὐ πρόδηλον, ὡς τῷ πάντ' ἐπεξέρχεσθαι βουλομένῳ καὶ τρία καὶ τέτταρα πληρωθήσεται βιβλία; καὶ τοίνυν νόμιζε πεπληρώσθαι τὰ τοιαῦτα, καὶ τι μεираκίον εἰς φλύαρον ἔμπεδον σοφιστὴν ἅπαντα λέγειν ἐσπουδακότα καὶ μηδὲν ὅλως παραλιπεῖν τῶν εἰρημένων τοῖς ἱατροῖς ἐν πολλῷ χρόνῳ φιλοπόνως ἐκμαθεῖν αὐτὰ, κἄπειτα συντυχεῖν ἐπ' ἀρρώστου τινὸς ἐτέρῳ μεираκίῳ παρ' ἐτέρου διδασκάλου, πῶς τε χρὴ διαγιγνώσκειν ἕκαστον τῶν σφυγμῶν καὶ τί δηλοῦν πεφύκασι μεμαθηκότι, πότερόν σοι δοκεῖ χρησιμὸν τι πρὸς τὴν τέχνην εἰς πρόγνωσιν ἐπὶ τοῦ νοσοῦντος εὐρήσειν; ἢ πότερον εὐδοκιμήσειν παρ' αὐτῷ τε τῷ κάμνοντι καὶ τοῖς παροῦσι; τὸ μὲν γὰρ ἕτερον μεираκίον ὅπως ὀρίζεσθαι χρὴ τὸν σφυγμὸν διήξει λόγους μακροὺς, εἴτε δ' ἀκινδύνως, εἴτε κινδυνωδῶς ὁ κάμνων ἔχει, καὶ πότερον εἰς χρόνον μῆκος αὐτῷ προελθεῖν, ἢ διὰ ταχέων κριθῆναι συμβήσεται, παντάπασιν ἀγνοήσει τὸ δ' ἕτερον μεираκίον ἀκριβῶς μὲν αὐτὰ προγνώσεται τε καὶ προερεῖ τοῖς παροῦσιν, ἀγνοήσει δὲ πῶς ὀρίζεσθαι χρὴ τὸν σφυγμὸν. ἐκ παραβολῆς δ' οὕτως ἐναργῶς διαγνωσθήσεται ποῖον μὲν τι τὸ ἄχρηστόν ἐστι τῆς διδασκαλίας εἶδος, ὁποῖον δὲ τὸ χρησίμον· ἄλλ' ὡς ἡ παροιμία φησὶ, γλυκὺς πόλεμος ἀπείρῳ, οὕτω μοι δοκοῦσι καὶ οἱ πάνθ' ὀρίζεσθαι προαιρούμενοι μηδ' ὅλως ἐγνωκέναι τὰς γεγονυῖας ζητήσεις τοῖς διαλεκτικοῖς περὶ τοῦ πῶς ὀρίζεσθαι προσήκει. In this very distinctive passage we find various terms referring to education and to learning: ἐκμαθεῖν-διδασκάλου-μεμαθηκότι-διδασκαλίας. The passage illustrates the contrast between book-learning and the oral teaching imparted by a teacher, and Galen shows himself to be resolutely partisan of the latter. For the term μεираκίον, cf. note 34.

have learnt, but for those who know nothing in advance it is impossible to teach them altogether.⁸⁹

g. Among the recommendations given to those who are studying medicine are those referring to learning the universal and the particular. Galen states in various passages that those who know the universal are qualified to comprehend and explain the particular. He does so for example when discussing a text of the Hippocratic *Prorrhetic*, in which the critical signs (τὰ κρίσιμα) are discussed: ‘For one who is just now learning the art believes that only those things are malignant about which he has heard. However, if he is quick by nature, he can surmise that others are also of that kind, and wait for another time, at which he will learn these as well. And when he thus happens to have learnt others, he again awaits the particulars, not knowing how much teaching is still lacking to him. But who has learnt the universal, knows all the particular’⁹⁰

And this is another admonition: ‘After this, I shall already turn to that (*sc.* explanation, ἐξήγησιν), after just saying in advance that which has also been said beforehand in the many <other> books written by me – entreating those who want to study the art of medicine thoroughly to train themselves in the particulars that are the object of perception, so

⁸⁹ Galen, *De anat. admin.* 1.2 (2.226.2 K.): ἔγνω οὖν ἐναργῶς ἐκ τουτωνὶ τὴν τραυματικὴν θέαν τοῖς μὲν ἤδη τι προδεδειγμένοις βεβαιουῦσαν ἃ μεμαθήκασι, τοῖς δ’ οὐδὲν προεπισταμένοις ἀδυνατοῦσαν διδάσκειν τὸ πᾶν. The expression τραυματικὴ θέα, ‘observation of the wound’, which appears for the first time in our author, calls for some specific commentary. We also encounter it at 2.289.14 K. and 13.609.2 K. The adjective τραυματικός, ‘regarding, or relating to, wounds’, has clear medical resonances. It appears in Crateuas (second century AD), then in Dioscorides (15 occurrences, especially referring to remedies suitable for wounds) and Galen (16; he is the first to use it for qualifying θέα). Moreover, we must emphasize Galen’s warning to the effect that only those can actually profit from this observation who have received explanations beforehand (προδεδειγμένοις) of what they were going to look at. In the opposite case the observation on its own is unable (ἀδυνατοῦσα) to teach at all. One should thus stress the educational potential of observation.

⁹⁰ Galen, *In Hipp. Prorrh. comment.* 3.129 (16.788.15 (bis)-789.1 K.): ὁ γὰρ ἄρτι μανθάνων τὴν τέχνην οἶεται ταῦτα μόνᾳ κακοήθῃ εἶναι, περὶ ὧν ἤκουσεν. εἰ δὲ καὶ φύσει ταχύς ἐστιν, ὑπονοῆσαι ἐνδέχεται τινα καὶ ἄλλα τοιαῦτα εἶναι καὶ περιμένειν χρόνον ἄλλον, ἐν ᾧ κάκεῖνα μαθήσεται, κἂν οὕτω τύχῃ μαθὼν ἄλλα, τὰ κατὰ μέρος αὐτὸς περιμενεῖ μὴ γινώσκων, ὅποσον ἔτι λείπει τῆς διδασκαλίας αὐτῷ. ὁ δὲ τὸ καθόλου μαθὼν ἅπαντα γινώσκει τὰ κατὰ μέρος. Again, we have a cluster of vocabulary pertaining to teaching and learning: μανθάνων-μαθήσεται-μαθὼν-διδασκαλίας-μαθών.

as to discern those that they have previously learnt in a universal way.⁹¹

And again, in another passage: ‘And it is necessary that one who wants to practise the art with method, having thoroughly studied the faculties proper to all materials, consider them no longer worthy of hearing in the case of every affection, but recognizing only the form of cure is able to discover the appropriate regimen. And I, concerned for those who are striving hard to learn the truth, shall not shrink from applying myself to this kind of teaching, so that those who are rather untrained in reasoning may pass from the universal to the particular, guided by examples.’⁹²

h. Galen forcefully expounds the importance of his commentaries on Hippocratic writings for those who are studying medicine: ‘I would be embarrassed to turn towards such nonsense, had I not – having first recounted in many treatises all the useful things of the medical art – in this way come to the explanations of the Hippocratic books, in which those who are learning the art cannot learn anything, apart from what I have written in detail, clearly, in the medical treatises, so that even the dim-witted may understand what has been said. They will have knowledge of the account, from which the majority of men sometimes admire some of those who practise the arts, believing that men who are very learned and remember much naturally also know thoroughly the precepts of the art.’⁹³

⁹¹ Galen, *In Hipp. Epid. I comment.* 1 pr. (17a.13.9-14 K.): μετὰ ταῦτα δὲ εἰς ἐκείνην ἤδη τρέψομαι, τοσοῦτον ἔτι προειπών, ὅπερ καὶ ἐν <ἄλλοις> πολλοῖς τῶν ὑπ’ ἐμοῦ γεγραμμένων βιβλίων εἰρῆσθαι φθάνει, προτρέποντός μου γυμνάζεσθαι τοὺς ἐκμαθεῖν θέλοντας τὴν ἰατρικὴν τέχνην ἐν τοῖς κατὰ μέρος αἰσθητοῖς, ὡς διαγινώσκειν αὐτούς, ἃ καθόλου προμεμαθήκασιν.

⁹² Galen, *De meth. med.* 7.6 (10.486.10-18 K.): καὶ χρὴ τὸν μεθόδῳ τὴν τέχνην ἐργάζεσθαι βουλόμενον ἰδίας τῶν ὑλῶν ἀπασῶν ἐκμαθόντα τὰς δυνάμεις μηκέτι καθ’ ἕκαστον πάθος ἀκούειν ἀξιοῦν, ἀλλ’ αὐτὸ μόνον ἐπιγνόντα τὸ τῆς θεραπείας εἶδος εὐρετικὸν εἶναι τῆς ἀρμοζούσης διαίτης. ἐγὼ δ’ οὐκ ὀκνήσω, κηδόμενος τῶν τάληθῃ σπευδόντων ἐκμανθάνειν, ἐφάψασθαι καὶ τῆς τοιαύτης διδασκαλίας, ἕνεκα τοῦ τοὺς ἀγυμναστοτέρους τὸν λογισμὸν ἀπὸ τῶν καθόλου μεταβαίνειν ἐπὶ τὰ κατὰ μέρος ὑπὸ τῶν παραδειγμάτων ποδηγουμένους.

⁹³ Galen, *In Hipp. Epid. comment.* 2.4 (17a.604.17-605.10 K.): ἡσυχνόμην δ’ ἂν εἰς τοιαύτην φλυαρίαν ἐκτρεπόμενος, εἰ μὴ πρότερον ἐν πολλαῖς πραγματείαις ἅπαντα τῆς ἰατρικῆς τέχνης τὰ χρήσιμα διελθὼν οὕτως ἦκον ἐπὶ τὰς τῶν <Ἱπποκρατείων> βιβλίων ἐξηγήσεις, ἐν αἷς ἐπιμαθεῖν μὲν οὐδὲν ἔχουσιν οἱ μανθάνοντες τὴν τέχνην ἔξωθεν ὧν ἐν ταῖς ἰατρικαῖς πραγματείαις ἔγραψα κατὰ διέξοδον σαφῶς, ὡς καὶ τοὺς ἀμβλεῖς τὴν διάνοιαν ἔπασθαι τοῖς λεγομένοις, ἱστορίας δὲ γνῶσιν ἔξουσιν, ἅφ’ ἧς οἱ πολλοὶ τῶν ἀνθρώπων θαυμάζουσιν ἐνίστε τῶν τὰς τέχνας μεταχειριζομένων τινάς,

Likewise, concerning the commentaries (ὕπομνήματα) that he is writing for his friends, he stresses the usefulness of his writings for those who have not studied with a teacher of medicine, or who have done so in an unsuitable way: 'It is likely that these commentaries will fall into the hands of others who are not able to use the writings well, either from not having learnt with a teacher the theory of the art of medicine, but being altogether uninitiated and completely untrained, or from having learnt badly, associating with those who say that the composite remedies have been discovered without reasoning, by experience alone.'⁹⁴

i. Galen reminisces about how the reduction of dislocations was explained to him: 'Now, the reduction of what has been dislocated cannot be explained clearly before understanding the change of place of that which has been dislocated, [i.e.] to what place. However, it is possible to have this explained before learning the signs of this change. Having learnt only this at the beginning of the discourse – that the dislocation occurs towards the arm-pit –, I myself could understand the reduction and learn it when somebody else explained, but not without knowing clearly that the dislocation occurred towards the arm-pit, before knowing the entire nature of the dislocation.'⁹⁵

οἰόμενοι τοὺς πολυίστορας καὶ πολυμνήμονας ἀνθρώπους εὐθὺς καὶ τὰ τῆς τέχνης διαγιγνώσκειν θεωρήματα.

⁹⁴ Galen, *De comp. med. per gen.* 3.1 (13.562.7-563.6 K.): εἰκὸς δὲ ἐκπεσεῖν καὶ εἰς ἄλλους τὰ ὑπομνήματα ταῦτα μὴ δυναμένους καλῶς χρῆσθαι τοῖς ἐγγεγραμμένοις, ἢ διὰ τὸ μὴ μεμαθηκέναι παρὰ διδασκάλου τὴν θεωρίαν τῆς ἰατρικῆς τέχνης, ἀλλὰ ὅλως ἀνεισάκτους τε καὶ ἀγυμνάστους εἶναι τὸ παράπαν ἢ διὰ τὸ κακῶς μεμαθηκέναι παραμένοντας τοῖς ἄνευ λόγου διὰ μόνης πείρας εὐρῆσθαι λέγουσι τὰ σύνθετα φάρμακα.

⁹⁵ Galen, *In Hipp. Artic. comment.* 1.32 (18a.367.15.11-368.6 K.): ἡ τοίνυν ἐμβολὴ τῶν ἐξηρηθηκότων πρὸ μὲν τοῦ νοηθῆναι τὴν μετάστασιν τοῦ ἐκπεσόντος εἰς τὴν χωρίον ἐγένετο, διδαχθῆναι σαφῶς οὐ δύναται, πρὶν μέντοι τὰ σημεῖα μαθεῖν αὐτῆς, ἐγχωρεῖ διδαχθῆναι. μόνον γοῦν τοῦτο μεμαθηκότος ἐν ἀρχῇ τοῦ λόγου τὸ γίνεσθαι τὴν ἔκπτωσιν εἰς μασχάλην, αὐτοὶ γ' ἐπινοῶσι τὴν ἐμβολὴν ἐδυνάμεθα καὶ διδάσκοντος ἑτέρου μαθεῖν, οὐ μὴν ἄνευ τοῦ γνῶναι σαφῶς ὅτι εἰς μασχάλην ἔκπτωσις γίγνεται πρὸ τοῦ γνῶναι τὴν φύσιν ἅσασαν τῆς διαρθρώσεως.

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The Didactic Letters Prefacing Marcellus' *On Drugs* as Evidence for the Expertise and Reputation of Doctors in the Late Roman Empire

Louise Cilliers

Summary

The didactic letters prefacing Marcellus's *On Drugs* are examined. It appears that one reason for writing such didactic letters was to equip the addressee with sufficient knowledge to enable him to avoid consulting a doctor, since there was great dissatisfaction with the quality of service rendered and the fees charged by doctors. The letters in the collection will be shown to represent various levels of healers, from the professional city doctor, to the army doctor, to the educated layman. They will also be scrutinized for evidence of the level of expertise of doctors in the late fourth and fifth centuries. Finally, the evidence will be compared with the criteria set some two centuries earlier by Galen in his blueprint for the examination of physicians.

Introduction

Didactic letters feature quite prominently in the Latin medical corpus, either as prefaces to collections of pharmaceutical recipes or as theoretical treatises in their own right. The focus in this article will be on the group of eight letters prefacing the huge recipe collection which constitutes Marcellus's *On Drugs*, published early in the fifth century AD. My aim is to try to glean from the letters what the contemporary views of doctors were, and also what knowledge and expertise a doctor in the late Roman Empire (fourth/fifth century) was supposed to have had. In order to see this information in perspective, it will then be compared with Galen's blueprint for the examination of physicians, the *On Recognizing the Best Physician*, written some two centuries earlier.

The corpus of the Marcellus letters is in many respects unique in Latin literature: it is the earliest deliberate collection of its kind in Latin

medical literature¹ (as opposed to medieval times when collections of letters on medical topics assembled in one manuscript by various copyists were a common phenomenon),² and its compilation was the work of a single person from whose pen it contains only one dedicatory letter, the rest being letters on medical topics by other authors.³

The letters serving as source for this investigation are the following:⁴

- 1) Marcellus to his sons;
- 2) Largius Designatianus to his sons;
- 3) Pseudo-Hippocrates to King Antiochus;
- 4) Pseudo-Hippocrates to Maecenas;
- 5) Pseudo-Plinius Secundus to his friends;
- 6) Cornelius Celsus/Scribonius Largus to C. Iulius Callistus;
- 7) Pseudo-Cornelius Celsus to Pullius Natalis;
- 8) Vindicianus to the emperor Valentinian.

This collection of letters was chosen as point of departure since it seems to be fairly representative of the very diverse medical scene in the late fourth and early fifth century AD: the authors were of different origin (e.g. Africa, Rome and Gaul); belonged to different levels of society (Marcellus, Scribonius and Vindicianus); practiced medicine on different levels (a city practice, a country ‘clinic’, and a layman’s advice), and had different objectives.

The identity of the authors and addressees

A few words on the identity of the authors and addressees are necessary:⁵ Marcellus, the compiler of the collection, was a native of

¹ In Greek medical literature there is a corpus of 24 pseudo-epigraphic letters supposed to have been written by Hippocrates, to Hippocrates or about Hippocrates, composed in the Roman era between the first century BC and the first century AD; this was, however, not a deliberate collection, but a compilation of letters on a common topic (Jouanna [1999] 7-8 and 396-398).

² Wiedeman (1976) 55.

³ Famous letter collections in Latin literature are those of e.g. Seneca and Pliny the Younger, but these consist solely of letters by the authors themselves.

⁴ The text of Niedermann and Liechtenhan (1968) 2-53 has been used.

⁵ Only two, perhaps three, of the letters are authentic, written by historical personages to real addressees (i, ii and viii), the rest are either spurious (iii and iv), or pseudonyms were used (v and vii), or were incorrectly attributed to the author (vi). Discussed in detail in Cilliers (2006) 91-110.

southern Gaul.⁶ He was also dubbed *Empiricus* or *Burdigalensis*, but it has been pointed out that both names are late coinages.⁷ From 394 to late 395 he held the important post of *magister officiorum* (Master of the Offices, akin to a Prime Minister⁸) in the court of the Roman emperor, Theodosius I, and by virtue of this office Marcellus rose to the rank of *vir illustris*.⁹ In 395 he was replaced as *magister officiorum*, an incident which would have been connected with the fall of his very influential patron, the Praetorian Prefect Flavius Rufinus.¹⁰ Thereafter Marcellus returned from Constantinople to his home in Gaul¹¹ where he devoted himself to his book which was completed in the early fifth century.¹²

Roman aristocrats in Gaul lived in a very unsettled world in the fifth century due to the influx of an ever-increasing number of barbarians. Those who could not identify and merge with the barbarians, relocated to more secure parts of the Roman Empire or sought careers in the church. Others turned inward and concentrated on the pursuit of literary excellence, which became the mark of a good Roman aristocrat.¹³ A

⁶ That Marcellus came from Gaul is proved by his reference in his introductory letter to his compatriots (*cives... nostri*) Ausonius, Siburius and Eutropius, all of whom had connections with Gaul. Matthews (1971) 1084-1087 suggests that Marcellus came from Narbonne.

⁷ Kind (1930) 1498 and Schanz-Hosius-Kruger (1959) 280. According to Langslow (2000) 66 note 27 he was called 'Empiricus' because of his statement in paragraph 1 of his letter that he compiled his work *de empiricis* (with knowledge gained 'by experience'). The name 'Burdigalensis' would refer to his supposed provenance from Burdigala (Bordeaux in Southern France), the most important centre of learning in western Europe at the time.

⁸ Mathisen (1993) 156.

⁹ As indicated by the heading of his letter: 'Marcellus Vir Inluster ex Magistro Offiorum Theodosii Sen. filiis suis salutem d.'

¹⁰ Matthews (1971) 1078.

¹¹ His return to Gaul is confirmed by a letter dated 399 is addressed to him in Gaul (*in avitis penetibus*) by the Roman senator and orator Symmachus (*Ep.* 9.23). Cf. too Chadwick's remark in this regard: 'Very often after a busy political or official career in the Roman civil service in Britain, Italy or Africa, they would return thankfully to their own country houses and lands, to end their days in the agricultural pursuits they love so well...' (1955) 23.

¹² In the heading of Marcellus's introductory letter he refers to himself as the *Magister Officiorum Theodosii Senioris*, but although Theodosius I died in 395, it was only in 408 with the accession of his grandson and namesake that Theodosius I was referred to as 'Senior'.

¹³ Cf. the remark made in a letter of the blue-blooded Roman aristocrat of Gaul, Sidonius Apollinaris: 'Because the imperial ranks and offices have been swept away, through which it was possible to distinguish each best man from the worst, from now on

literary culture now bound Gallo-Roman aristocrats together, and literary circles at which the works of local and distant litterateurs, ancient and contemporary, were discussed, copied and circulated, came into being in every Gallic city of note, i.a. Bordeaux and Narbonne.¹⁴ Marcellus would after his fall from grace have been one of those who benefited from the new criteria for aristocratic status, and would certainly have participated in these discussion groups. It is, in fact, quite possible that his idea of a collection of letters could have emanated from such literary gatherings – Chadwick pointed out that letter-writing and forming collections of letters for publication was very much in vogue in the closing years of the fourth and throughout the fifth century.¹⁵ Roman roads were still in good shape, and the great west-east road from Bordeaux to Constantinople greatly facilitated communication; books could also easily be sent from one end of the Empire to the other – St. Jerome in Bethlehem e.g. regularly borrowed books from friends in Europe (Chadwick [1955] 14-16). This would then explain the odd selection of letters in Marcellus's collection which originated at different times and in different parts of the Empire.¹⁶

Of Largius Designatianus we know nothing,¹⁷ his short letter is merely the introduction to the first Hippocratic letter which he states that he had translated.

The two Hippocrates letters are spurious. Neither of the two were written by Hippocrates, and the two addressees are fictitious as well. It has been pointed out that both derive from the same source,¹⁸ which was originally a didactic treatise based on folk medicine in the form of a letter,¹⁹ promising protection against diseases when the prescribed prophylactic measures are followed. The complicated transmission of the letters and the reason for the substitution of names are discussed elsewhere.²⁰ The two letters are short scientific treatises, and are regarded by some scholars as a later addition to the collection.²¹

to know literature will be the only indication of nobility' (*Ep.* 8.2.2). Cf. also Mathisen (1993) x and xii.

¹⁴ Mathisen (1993) 111; Chadwick (1955) 170-186.

¹⁵ Chadwick (1955) 7.

¹⁶ Regarding possible reasons for the inclusion of these letters in the collection, cf. Cilliers (2006).

¹⁷ Thus stated by Stein (1959) 836 s.v. Largius.

¹⁸ Sabbah, Corsetti and Fischer (1987) 96-97 and Zurli (1990) 389.

¹⁹ Heinimann (1955) 172.

²⁰ Cilliers (2006).

²¹ Fischer (forthcoming).

The letter which has 'Plinius Secundus' as author was written by an anonymous author *ca.* 300 AD and is an introduction to a collection of more than 1,00 pharmaceutical recipes in three books, later known as the *Medicina Plinii*. About five-sixths of these recipes have been excerpted from Pliny the Elder's *Natural History*, hence probably the pseudonym.

The first Celsus letter (to Iulius Callistus) is an authentic letter, an introduction to yet another collection of medical recipes, called the *Compositiones (Drug Recipes)*. However, the name of the (real) author, Scribonius Largus, has for an unknown reason been replaced by that of the well-known first century encyclopaedist, Cornelius Celsus. Scribonius, probably a freedman,²² seems to have been a military doctor who accompanied the emperor Claudius (reigned 41-54 AD) on the expedition to Britain.²³ Although this letter was written in the first century AD, it will be discussed on a par with the other letters, since its inclusion in the collection indicates that Marcellus would have endorsed the views expressed in this letter as valid and applicable in his own time.

We have no information regarding the author of the second Celsus letter, and do not know who the addressee Pullius Natalis was. It purports to be an introduction to a translation of a collection of Greek medical recipes. The name Celsus would have been a pseudonym – we have no knowledge of a recipe collection compiled by the well-known Cornelius Celsus.

The letter of Vindicianus to the emperor Valentinian (reigned 364-375 in the West) is authentic, and was also an introduction to a (now lost) collection of pharmaceutical recipes. Vindicianus was a distinguished fourth century North African physician, Proconsul of Africa in 380/1, and Count of the newly created elite Roman College of Physicians.

²² Hamilton (1986) 209 note 1.

²³ 'Whether he was there as an army doctor on a short service contract or was brought along as the private physician of a general or leading courtier is unclear' (Nutton [2004] 172). The imperial physician on this occasion was C. Stertinus Xenophon; he received military decorations after this campaign from the Emperor Claudius, whom Xenophon (aided by a local poisoner) was suspected of having murdered in 54 AD.

Views on doctors from Galen (second century AD) to Marcellus (fifth century)

Criticism of doctors can be traced back many centuries and occurs in practically every literary genre.²⁴ The fact that there was no official licensing by the state or by a body such as a General Medical Council to ensure that those presenting themselves as doctors have a high level of proficiency, or consensus about what the training of aspiring doctors should comprise, had as a result that anybody could present himself as a doctor. The epigrammatist Martial for instance refers to various kinds of impostors, i.a. a so-called doctor who could with very little change in his lifestyle become an undertaker (1.30), and an oculist who was a gladiator (8.74). One of Phaëdrus's fables is about a clumsy cobbler who became a doctor (1.14). Pliny the Elder has much to say about doctors in his *Natural History* (29.8-14 and 18-28), criticising their exorbitant fees and their criminal ignorance which put the patients' lives at risk: 'only a physician can commit homicide with complete impunity' (29.18).

Galen's view in his On Recognizing the Best Physician

In the late second century AD Galen sketched a gloomy picture of the medical scene; exasperated by the situation, he gave a public lecture which was published in the course of 175 AD with the title *On Recognizing the Best Physician*.²⁵ The fact that the state could not regulate medical practice put the onus on the public to distinguish between good and bad doctors, and in this book Galen sets out criteria to enable laymen to make this distinction. He criticises laymen for being either too trustful (summoning just any doctor without prior knowledge of his competence) or too lazy or too busy seeking pleasure to acquire medical knowledge (chapter 1). This criticism must be seen against the background that a Roman gentleman was expected to have at least some knowledge of medicine – Aulus Gellius in the second century AD for instance considered it a gross solecism for a man of

²⁴ For an extensive account of the criticism against doctors, cf. Nutton (1988b) 30-58.

²⁵ The original Greek text of this work was translated into Arabic in the ninth century by Ḥunain ibn Ishaq before it got lost. The Arabic version was in turn translated into English in 1988 by A.Z. Iskandar, who gave the title *On Examinations by which the Best Physicians are Recognized* (in this volume: *On Recognizing the Best Physician*) to the treatise. On the different versions of the title, cf. Nutton (1990) 239-240.

learning to be so ignorant of medicine as to confuse his veins with his arteries.²⁶ In the fourth century Oribasius also expressed the sentiment that educated Romans should learn medicine 'so that they can become good advisers in everything that is related to public safety' (3.164). It was thus an accepted fact of life that medical knowledge was not confined to those who called themselves doctors – apart from various distinguished authors like Seneca and Plutarch whose works are interspersed with medical information, the learned Galen reproduced without comment recipes taken from e.g. a barber, a eunuch and a boxer.²⁷ He also complained about doctors who courted the rich: they would be subservient to get employment and then prescribe only pleasurable regimens which would bring them popularity and keep their purses full²⁸ but lead to the deterioration of the patient's health (chapters 5 and 9); however, when a serious disease set in, they would be helpless (chapter 5). A serious complaint mentioned by various authors and echoed by Galen in some of his other works is that doctors practice medicine for the sake of gain rather than for the benefit of mankind.²⁹

Views expressed in the Marcellus letter collection

Two centuries later the Marcellus collection also reflects dissatisfaction with doctors. All the letters served as introductions to compilations of medical recipes, with the exception of the two Pseudo-Hippocrates letters together with the introductory letter of Largius Designatianus. To a greater or lesser degree most the letters are didactic in that they provide medical knowledge to the addressees, be they the sons of the

²⁶ Gel. 18.10.1. Cf. too Apuleius in Northern Africa who described people who are ignorant of medical knowledge as 'country bumpkins' (*Apol.* 48-52).

²⁷ Galen, *De comp. med. sec. loc.* 7-9 (13.104, 204, 294 and 260 K.).

²⁸ It was easy for Galen, who had no financial problems, to say this. While a living could be made from medicine, the average doctor had to have, or rather acquire, access to wealthy patients in order to make an easy living. Rome would have had wealthier patients than e.g. a middling town like Pompeii, which furthermore, judging from the approximately 25 excavated houses of surgeons, would have had a surfeit of physicians (Nutton [2004] 262).

²⁹ Galen, *Quod opt. med.* (1.57 K.): '...nobody can have training in this great and noble art while at the same time he seeks to amass wealth'. On the wealth amassed by doctors in Rome, cf. Plin. *Nat.* 29.8 and 23. Cf. too Galen, *De praecogn.* 04 (14.621-624 K.) where he bewails the greed, corruption, charlatantry and murderous incompetence of his fellow-doctors.

authors, friends, a court official or an emperor. The question arises what the function of these didactic letters was while there were doctors around who specialised in medicine?³⁰ Two of the letters give advice (that of Marcellus paragraph 3 and Ps. Pliny paragraph 1), enabling the addressee to help himself without having to consult a doctor; this advice could then be implemented by making use of the recipes following on the letters. The mere fact that self-help is preferred to the consultation of a doctor speaks volumes about the reputation of doctors.

Scribonius Largus in his letter (in a paragraph later echoed by Galen, as we have seen) takes the public to task for the injudicious way in which they entrust their lives to a doctor without satisfying themselves beforehand as to his expertise (paragraph 9). He furthermore expresses concern that some of those who present themselves as doctors did not study the ancient authorities but took a short-cut, with the result that they do not know the total art and can only give advice regarding one kind of complaint (paragraph 10). Doctors who are not acquainted with drugs, or even worse, who have the knowledge but do for some reason not use drugs in therapy, are criticised severely (paragraph 3). To support his view, he quotes a remark made by Herophilus: 'Medicaments are the hands of the gods' (paragraph 3).

Other points of criticism are found in the letter of Pseudo-Pliny (paragraph 1) which contains practical self-help hints for travelers; they have to rely on the expensive treatment of unscrupulous doctors in the countryside who sell remedies at an exorbitant price while they know that it will not cure the disease, or who extend the treatment of patients over a long period to ensure a steady income.

The state's attempts to maintain the standard of medical services

In the light of the criticism mentioned above, the question arises whether the state did not try to raise or at least maintain the standard of the medical service? There were attempts: apart from various imperial

³⁰ Marcellus also gives the reason why he added the other letters to his own, namely his wish to inculcate in his sons the desire to acquire the necessary medical knowledge themselves (paragraph 6). To make the letters of other medical authors part of the introduction was thus a very shrewd move from a psychological point of view (even though this may not have been Marcellus' primary aim): instead of a long (and never-appreciated) sermon by him as a parent, he wisely included letters by independent outsiders, all of whom would have been acknowledged as authorities by contemporaries, and whose views would have complemented and corroborated his own.

regulations to control the practice of medicine,³¹ we have in the second century AD e.g. a statement by the jurist Ulpian that a doctor should be chosen upon the evidence of his moral probity and professional skill³² (in that order). Then there was the small comfort that state-appointed doctors (*archiatri*) could be expected to be more competent since their appointment and re-appointment depended on the local council, a body consisting of laymen with no medical knowledge, but men would as patients or relatives of patients have had first-hand experience of the competence of the doctor. Due to the different social patterns and attitudes in the Roman world, generalisations are impossible, but it does not seem that these attempts contributed to improving the level of competence of doctors or to curbing the practices of quacks and impostors. There were, however, good doctors too – many memorials were erected in their honour all over the Empire expressing the appreciation of local communities for their services.³³

*The knowledge and expertise of doctors as it appears from the
Marcellus letter collection*

When reading the collection of letters in search of remarks that might throw light on the knowledge and expertise that doctors in the late fourth and early fifth century were supposed to have had, the medical pluralism of Roman society at large strikes one. The fact that there were different levels of healers – from professional doctors to educated laymen to country folk with their traditional remedies – will obviously have implications for the level of knowledge and expertise that can be

³¹ E.g. an edict of Domitian in 93/94 AD (*Fontes Iuris Romani Ante-Iustiniani* 1.77, Riccobono (1968) 427-478) withdrawing tax privileges previously granted by Vespasian to doctors and teachers; the former, in pursuit of riches rather than the benefit of mankind, were found to teach medicine to slaves, thus increasing the number of uneducated doctors. Other attempts regarding state control of doctors mentioned by Drabkin (1944) 346-347 were i.a. to make doctors register before granting them citizenship, and later restricting financial privileges or tax immunity to only a select number depending on the status of the town or city they served. The emperor Valentinian I's establishment of a College of Physicians for Rome in 368 (the only instance in classical Antiquity where a doctor was evaluated by his peers and not by laymen) was, however, not a kind of General Medical Council determining who was to practice medicine in Rome, but possibly a prestigious body of doctors, who, once elected by their peers, 'were to place an honourable service to the poor before squalid subservience to the wealthy' (Nutton [1988a] 15-19).

³² Ulp. *dig.* 27.1.6.4 and 50.9.1.

³³ Cilliers & Retief (1999) 47-65.

expected; in this study I will limit myself to doctors who had some kind of education and were doctors by profession.

An example of medical pluralism: three healers

Marcellus's collection of letters supplies a good example of the medical pluralism in the Roman Empire. On the one hand there was Marcellus himself, an educated layman³⁴ (probably) from Bordeaux, writing at a stage when the civic organization of the Gallic countryside was gradually 'splintering into that of the great medieval estates'.³⁵ His book is to a great extent a return to the agricultural recipes of Cato and the traditional remedies of country folk, and contain many superstitious practices beneath the 'thin layer of Hippocratic empiricism'.³⁶ His recipes are derived not only from ancient (Latin) medical authorities, but also from contemporaries and country folk – one should keep in mind that apart from a number of big towns on the rivers, Gaul was at that time still largely agricultural, and the landed elite were very devoted to agricultural pursuits. This recipe book forms part of a long tradition of do-it-yourself books on healing,³⁷ written in the first place to teach men to do without doctors (and especially without surgery³⁸), and to make the reader self-sufficient by providing him with simple medical recipes and commonsense advice. Marcellus wishes the information in his letter and the recipe book to be disseminated more widely, and requests his sons to share this knowledge 'with the mutual interchange of human love' with all the sick – persons known and not known, strangers, the poor, a sick guest or a needy traveler (paragraph 4).

Nothing can be further removed from this down-to-earth layman's approach to healing than the sophisticated letter of Vindicianus with which the collection ends. Vindicianus was more or less a

³⁴ He was not a doctor by profession. However, Nutton (1988c, 38) points out that in the absence of certification the dividing line between the educated layman and the doctor was thin.

³⁵ Nutton (2004) 300.

³⁶ Brown (1980) 114.

³⁷ Cf. Pliny the Elder's *Natural History*, written 350 years before Marcellus's work, which also pleads for a return to the traditional Roman self-help medicine, modified to accommodate a Roman gentleman. Another example is Oribasius's *Liber ad Eunapium* (CMG VI.3, Leipzig 1926, 317-318) which also falls in this category.

³⁸ On the horrors of surgery cf. August. *C.D.* 22.8.106-119 where the terror of a man awaiting an operation is described.

contemporary of Marcellus, perhaps 20 years younger. Here we have the learned, professional city doctor, and the letter is addressed to the emperor (who else?), and written in the florid, rather bombastic Asiatic style with dramatic similes. With great aplomb two case studies are described, together with detailed prognoses in which Vindicianus demonstrates that his fellow-doctors were completely wrong in their diagnosis and treatment of the patients (paragraphs 2-4 and 8-9). He too wishes that his remarks about remedies should reach a wider reader public, but leaves it to the emperor to transmit it to future generations (paragraph 10).

In between these two extremes we have the letter of the army doctor, Scribonius Largus, written in the first century AD and addressed to the emperor Claudius's freedman, Callistus. Scribonius is perhaps best known for his attempt to raise medicine to a level worthy of a Roman gentleman by establishing an ethical code for the practicing physician maintaining the Hippocratic principle of healing and not harming and not using abortives or poisons, even in the case of enemies (paragraphs 4 and 5). The letter also contains a plea that doctors uphold a high standard in their vocation by acquiring a comprehensive knowledge of the totality of medicine (paragraphs 10 and 11).

A comparison with Galen's criteria for the ideal doctor

Although the point of departure of the main sources for this study – Marcellus, Vindicianus and Scribonius Largus – differs widely, odd bits of information regarding the knowledge and expertise of doctors of the time can be gleaned from passing remarks in their letters as well as intermittently in the other letters, and give us a fairly good idea of the knowledge and expertise a good physician in the late fourth and early fifth century AD would be supposed to have had. A comparison with Galen's criteria as set out in his *On Recognizing the Best Physician* is perhaps a bit unfair since he took himself as model, and his education and career was very different from that of the average practitioner of his time. However, keeping that in mind, the comparison does give one some idea of how the doctors in the late fourth and early fifth centuries measured up to the ideal set by Galen, and should also indicate whether there was a decline in the medical situation in the two centuries after Galen.

1) There is consensus among the authors of the letters that theoretical knowledge of the ancient authorities is an absolute requirement.

Scribonius (paragraph 9) and Vindicianus (paragraph 2) do not specify the authorities, but Marcellus refers to Pliny, Celsus and other (Latin) contemporaries (paragraph 2) and adds that he also gained his knowledge from contemporary sources and ‘the noble contributions of laymen’ (paragraph 1). This would obviously have been sufficient for Marcellus’s ‘country clinic’, but Galen’s requirement for the professional city doctor was that he should know the tenets of the great physicians from Hippocrates down to Asclepiades of Bithynia, and should be able to select the best doctrines (chapter 9.22).³⁹ However, despite a flourishing book-trade in Rome (Nutton [2004] 264) it is doubtful whether the average doctor would have had recourse to these works; it is more likely that they would have relied on summaries and Latin adaptations of Greek sources, which from the fourth century gradually replaced the original sources since a knowledge of Greek was becoming extinct in the Western part of the Empire.

2) In the Marcellus collection a very basic knowledge of anatomy and physiology (including the humours and their working) is assumed.⁴⁰ However, a specific reference to the importance of anatomy is lacking in the letters. This is perhaps the aspect in which there is the greatest difference between the requirements gleaned from the letters and those set out in Galen’s book; he felt very strongly about this requirement,⁴¹ and even stated that a doctor who excels in anatomy need not be tested further (chapter 9.1) ! Human dissection was with the exception of a short period in the third century BC when it was freely practiced in Alexandria, not done in the Graeco-Roman world due to superstition and respect for the human body. Anatomical knowledge was acquired by means of the dissection of animals resembling man; by the second century AD even that was no longer done, and aspiring doctors had to rely on anatomical descriptions in books. Galen made a

³⁹ Galen stated that if a doctor does not have this knowledge, he need not be examined any further – practising medicine without a theoretical background is according to Galen a waste of time (*De optimo medico cognoscendo* chapter 9.22).

⁴⁰ E.g. the two Hippocrates letters in which the four parts of the body, the diseases pertaining to them and the effect of the dominance of the respective humours in the respective seasons and in certain times of life are discussed (Pseudo-Hipp. *Letter to Antiochus* paragraphs 2-7 and *Letter to Maecenas* paragraphs 6-9).

⁴¹ Cf. Nutton (2004) 138-139 on the conflicting views regarding the importance of anatomy. From the third century BC onwards even those who regarded it as essential moved away from investigations and experiments, and believed that its necessity lay in serving a wider medical purpose, namely to enable one to treat disease more effectively and to apply the right medicaments. This debate about the role and methodology of human dissection in the training of medical students is still with us today.

tremendous contribution in this regard,⁴² and among the authors of the Marcellus letters two centuries later we find that Vindicianus also wrote a short treatise on human anatomy (the *Gynaecia*) in an effort to meet this deficiency. A sound knowledge of anatomy thus still seems to have been the ideal in the fourth century, though it is apparent that few doctors reached it.

3) That a doctor should be able to identify the symptoms and make a (correct) prognosis, is shown in Vindicianus's letter. For Galen this was one of the most important requirements, since if a doctor could make a correct prognosis, it meant that he would be able to determine critical days and to assess the severity of a disease⁴³ and its effect on the patient (chapter 12.1); he should also then be able to distinguish between malignant, protracted and benign diseases (chapters 5.5 and 7.6 and 7) and between regular and irregular developments in the course of the disease (chapter 4.6).

4) Making a correct prognosis was important for building a doctor's reputation, not only in the light of the fierce competition between doctors but also in the case of itinerant doctors who had to make an immediate impression when entering a new town. But it was not only knowledge that counted here, eloquence also played a role. Being able to display one's knowledge (as shown by Vindicianus in his letter) was part and parcel of what was expected of a good doctor – that was the difference between a doctor and an educated layman.⁴⁴ Though bemoaned

⁴² Cf. his *De anat. admin.* (2.215-713 K.) and *De usu part.* (3.1 [939 K.] and 4.1 [366 K.]), written as instruction books to meet the deficiency. Galen in fact recommended that his students at least visit Alexandria where anatomy is still taught: 'It should be your task and your endeavour not only to learn the exact form of every bone from books, but eagerly to look on the human skeleton with your own eyes. This is very easy in Alexandria, so that the physicians of that area instruct their pupils with the aid of autopsy. One must try, if for no other reason, to go to Alexandria just for this' (*De anat. admin.* 2.220 K.).

⁴³ Cf. too Herophilus who according to Stobaeus (*Flor.* 4.3809) defined the ideal doctor as the man who could tell (*diaginōskein*) what could be done and what not. Hippocrates (*De Arte* chapter 3) advised that a doctor should not treat those who are overpowered by a disease. Celsus (5.26) also gave the advice that a prudent doctor should not touch a patient who is certain to die of an incurable disease. That this was also the view in the second century AD is shown in Lucian of Samatosa's essay *The Disowned Son*, which describes the experience of a young man who had been disowned, then studied medicine but returned to cure his father who had become insane. He was received into the family again, but when his stepmother also became insane and he refused to treat her since he judged it to be an incurable case (chapter 31), he was disowned again.

⁴⁴ Eunapius in his *Lives of the Philosophers* e.g. refers to Magnus of Nisibis, a famous professor of medicine at Alexandria in the 370s, an uninspired synthesizer of Galen

by competent but tongue-tied doctors, the fact was that the ability to speak well was seen by patients as a guide to medical competence⁴⁵ – the culture of the Empire set a high premium on rhetoric. Galen was, of course, the epitome of the kind of doctor who would flourish due to his ability in dialectic argumentation (Iskandar [1988] 141).

5) A knowledge of drugs was essential⁴⁶ – five of the eight letters in the Marcellus collection are introductions to compilations of medical recipes, which implies that both professional physicians and laymen had to be able to prepare them and to know what the effect of the medicaments would be. This confirms Galen's view about the importance of being acquainted with pharmaceuticals.⁴⁷ The Pseudo-Pliny letter in addition gives advice on how to acquire substitute ingredients⁴⁸ when traveling (paragraph 2), again corroborating Galen requirement that a doctor should be able to obtain the ingredients of medicaments even when in a small village from e.g. flowers, fruits, leaves and roots, and should be able to indicate simple drugs such as litharge and white lead which can cure many diseases (chapter 12.3-4).

6) The most common therapy for practically any complaint in Graeco-Roman Antiquity was an emetic or a cathartic or venesection, but doctors had to know what was appropriate in each patient's situation. That this was not always the case, is apparent from Vindicianus's letter in which he sharply criticizes his fellow-doctors for following the wrong procedure (paragraph 9). Doctors also had to know when to prescribe food (and of what kind) and when fasting – once again it is Vindicianus who tells us in detail that in the case of the constipated patient he prescribed that vermouth mixed with libisticum be given to him, as well as pork offal, cooked in vinegar and cumin (paragraph 4). Galen did not go into so much detail, but also insisted that the ideal doctor should have a knowledge of dietetics⁴⁹ and know

who had an odious personality, but was very successful because of his oratorical abilities.

⁴⁵ Celsus was with his view ('It is not, however, by eloquence but by remedies that diseases are treated', *pr.* 30) a voice crying in the wilderness.

⁴⁶ Marcellus paragraph 5 and Scribonius paragraph 2.

⁴⁷ He admits that the ordinary physician might not know all the drugs that he himself knows and should thus only be tested on the drugs known to their predecessors! (chapter 11.7)

⁴⁸ Nutton (2004) 178 refers to the proliferation of treatises on substitute drugs from the first century AD, 'listing what alternatives might be used if those originally prescribed were unavailable'.

⁴⁹ For Galen this implied more than just food and drink – it envisaged the patient's whole lifestyle (i.e. exercise, sleep and environment) (Nutton [2004] 240).

when to prescribe food, fasting, sweating or a massage (chapters 3.6 and 4.4).

7) Although surgery and cautery were only resorted to when all other therapies had failed,⁵⁰ doctors had to have expertise/proficiency in this field as well. From Vindicianus's letter in which he harshly criticizes the surgical and cauterizing procedures followed by his fellow-doctors (paragraphs 8 and 9), we deduce that contemporary doctors did not necessarily have this proficiency. Galen who believed that a treatment with drugs rather than surgery is the mark of a skilled doctor (chapter 10.5), devotes four short paragraphs to the examination of surgeons (11.1-4); he cautions against immediate resort to surgery and advises that surgeons should first consider the severity of the disease before operating. However, he mentions that surgeons can also be examined by looking at their treatment of cases such as stones in the bladder, aneurysmal veins, fistulae, tonsillitis, scrofulous glands and tumours, and then three eye diseases, namely cataracts, pterygium and trichiasis (chapter 14.2 and 3). One does not know what the success rate of these operations (without antiseptics) was, but the fact that Galen mentions them, implies that they were done.

8) Finally,⁵¹ Scribonius's guidelines for ethical conduct (see above p. 408) will at least have set the ideal, although obviously not the norm (paragraphs 4, 5, 6, and 8). This letter with its plea for maintaining the Hippocratic Code's principles of respect for the human life and healing or at least not harming, is unusual for the first century AD when abortives were one of the common ways of limiting families, and poisons were easily obtainable and used, even by doctors.⁵² However, the Oath only really started to gain acceptance with the spread of Christianity, and it is doubtful whether doctors in the early Empire would have felt bound by it.⁵³

⁵⁰ Cf. Scribonius paragraphs 2 and 6. However, archaeological evidence (especially doctors' instruments) from the military camps excavated at Neuss and Bingen in Germany reveals that a wide range of operations were performed (Nutton [2004] 182).

⁵¹ Nutton (1972) 169 adds that apart from knowledge (*epistēmē* or *sophia*) and experience (*empeiria*) membership of a local family of doctors would further be an 'assurance that the patient would not be murdered by an unscrupulous quack'. Another qualification would be attendance at a renowned medical centre such as Alexandria (1972) 170.

⁵² The prohibition on poisoning would have been very relevant in especially the first century AD when there was a constant dread of suchlike crimes. Cf. in this regard Cilliers and Retief (2001) 88-100.

⁵³ Cf. Houwaart *et al.* (2005) 12-22 on the history of the Oath.

Conclusion

The image of the competent doctor derived (between the lines) from the Marcellus letters, does in some respects not measure up to the ideal set two centuries earlier by Galen in his *On Recognizing the Best Physician*. It seems that the standard set by Galen for theoretical and anatomical knowledge was no longer attained and attainable in the late fourth century – aspiring doctors could no longer consult the original (Greek) sources and had to make do with Latin summaries, and anatomical knowledge valued so highly by Galen, was in the late fourth century a dream cherished by a few elite doctors such as Vindicianus. Regarding requirements such as the ability to identify symptoms, give a prognosis, eloquently display their knowledge, being acquainted with drugs, prescribing the right therapy and diet, and even expertise in surgery and cautery, there seems to have been little difference between the ideal set by Galen and the picture of what a competent doctor in the late fourth century would have been expected to do. It is impossible to make a judgment regarding Scribonius's ideal of upholding the Hippocratic Code – it is not mentioned in any of the other fourth century Marcellus letters. However, we do see a trace of it in Vindicianus's letter which reveals a sympathetic treatment of the patient (paragraphs 2, 4, 7, 9, 10); there is also his urgent appeal at the end of his letter (paragraph 10) that a doctor should not add to the patient's misery by harsh treatment. This attitude does however not seem to be representative of the time, since it was Vindicianus's learned colleagues who had cut, cauterized and venesected an already half-dead patient. (paragraph 9).

The letters then reveal that there were various levels of healers in the late fourth/early fifth century AD coming from different backgrounds,⁵⁴ having different degrees of medical knowledge and different objectives. Though this rules out any generalizations about their therapeutic methodologies and procedures, in short regarding their expertise, all had a role to play. There were the professional city doctors, some of whom still had a knowledge of Greek rational medicine and would have had a better theoretical basis from which to diagnose and treat

⁵⁴ Firmicus Maternus, the fourth century astrologer, classified doctors on the same social level as soldiers or gladiators (*Handbook of Astrology* 8.29.5; 8.24.14; 4.10.3), stating that very few doctors would amass the wealth and influence of lawyers and administrators. This view is, regretfully, probably correct, especially regarding the country practitioners.

patients. On the other hand there were a country doctor like Marcellus, an army doctor like Scribonius, and laymen (presumably) like Pseudo-Pliny and Pseudo-Celsus, who left us their practical time-honoured traditional folk recipes, and would with their drugs and common sense have pulled many a patient through a crisis. It is the glimpse of the wide spectrum of healers presented in one corpus that makes this letter collection so remarkable.

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Medical Education in Late Antiquity From Alexandria to Montpellier

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Summary

The training of medical students reflects current medical trends and has grave repercussions on the future development of the medical art. This is as true today as it was in Antiquity. There was, however, one period and place at the crossroads of civilisations and cultures in which the educational trends were to have a particularly important influence on how medicine evolved. This was Alexandria in Late Antiquity. In a climate where medicine and philosophy were heavily intertwined, teachers used formal philosophical concepts in order to organise medical knowledge. Their educational techniques provided the tools with which Islamic authors during the medieval period such as Avicenna (Ibn Sīnā, d. 1037) arranged their great medical encyclopaedias. These works in Latin translation later became the core curriculum in the nascent universities of Europe.

The 'school' of Alexandria

From its foundation in 332 BC, Alexandria has always been at the forefront of medical science. It was here that the two greatest anatomists of Antiquity, Herophilus and Erasistratus, made their ground-breaking discoveries, and here that the most influential physician, Galen (d. 216/17), had come to study.² The city also boasted the famous Alexandrian library, the greatest in the world at the time, which fostered the study of the classics and provided a forum for intellectual exchange.³ It and its successor institutions were, however,

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² Von Staden 1989, 2004.

³ El-Abbadi (1992), MacLeod (2000), Escolar (2001).

destroyed over the course of history, the burning of the Serapeion in 391 AD marking the end of this great tradition. In this context, scholars have often talked of intellectual and political decline in the late antique world, explaining it, as Edward Gibbon (d. 1794) did, with the spread of Christianity.⁴ Whatever one may think about this subject in general, Alexandria certainly did not conform to this image of collapse and degeneration.

Because of its great fame, Alexandria quickly became the stuff of myths.⁵ For instance, as regards medicine, some scholars, especially in the French world, have talked about a 'first' and 'second School of Alexandria (*première/deuxième École d'Alexandrie*)', the first having flourished in the third century BC, and the second in the sixth and seventh centuries AD. In this, of course, they follow later medical historiography, for instance, in the Arabic Middle Ages, which depicts Herophilus and Erasistratus as colleagues, or as pupil and teacher. Yet, as far as we know, in third-century-BC Alexandria, there was no single school of medicine, but rather competing physicians who enjoyed royal patronage and worked in extremely favourable conditions. Likewise, there was no single 'School of Alexandria' in the sixth or seventh century. Rather, we find certain intellectual trends, especially in philosophy and medicine.⁶

An important number of philosophers studied or taught in late antique Alexandria. The debates of this time were characterised by a conflict between pagan philosophy and monotheistic beliefs. Scholars such as Ammonius (fl. 510s–20s) composed commentaries on the works of Aristotle and Plato. In these writings, the authors tried to reconcile Peripatetic and Neo-Platonic ideas. Whilst some philosophers remained within the framework of pagan Antiquity, other authors clearly defended monotheistic positions.⁷ For instance, the Christian philosopher and Ammonius' pupil John Philoponus, called 'the Grammarian (*al-Naḥwī*)' in Arabic, took Aristotle and Proclus to task for thinking that the world was eternal and therefore uncreated; rather, he argued – by employing philosophical reasoning, but in keeping with the creationist accounts in *Genesis* – that the cosmos had a beginning

⁴ Gibbon (1776–1788); for a recent and refreshing view on this topic, see Ward-Perkins (2005).

⁵ Watt (2006). Hirst & Silk (2004) explore the continuing attraction of the Graeco-Egyptian metropolis in the literary imagination.

⁶ Boulluec (1987); Vinzent (2000).

⁷ An excellent overview of the philosophical debates in the late antique commentaries is provided in Sorabji (2004); see also the recent Baltussen (2008).

and will have an end.⁸ Other debates raging in Alexandria regarded the notion of divine providence (πρόνοια), and the problem of fate (εἰμαρμένη) versus free will.⁹ A number of medieval Muslim thinkers such as al-Fārābī conceived of this influence in terms of an uninterrupted chain of teachers and pupils ‘from Alexandria to Baghdad’ (via Ḥarrān, ancient Carrhae), through which this philosophical knowledge was transmitted.¹⁰ Some modern scholars even went so far as to see in Simplicius (fl. 530s–40s) – who had studied in Alexandria with Ammonius – one of the links in this chain.¹¹ This legend, however, does not reflect historical truth.¹² Philosophy and medicine were often closely linked in late antique Alexandria. The philosopher Philoponus, for example, also wrote on medical matters; he composed, among other works, a commentary of Galen’s *On the Utility of the Parts*.¹³ Moreover, Galen himself had postulated ‘that the best physician is also a philosopher’.¹⁴ In the following we will explore further how philosophical ideas such as the four Aristotelian causes influenced medical teaching. First of all, it is, however, necessary to explore the medical milieu of late antique Alexandria further and look at the different genres of medical writing popular there.

Medical literature: commentary, summary, branch diagram, encyclopaedia

The medical literature produced in late antique Alexandria which still survives can roughly be divided into four categories:

- 1) commentaries;
- 2) summaries;
- 3) branch diagrams;
- 4) encyclopaedias.

A substantial number of commentaries has come down to us, either in the original Greek or in Latin translation. Under the name of John of

⁸ See the recent translation by Sharpe (2004, 2005, 2006); see also Verrycken (1994).

⁹ See Seel *et al.* (2001), and Adamson (2006) for later interpretations.

¹⁰ Meyerhof (1930).

¹¹ Tardieu (1986).

¹² Strohmaier (1987), Lameer (1997).

¹³ Strohmaier (2004).

¹⁴ Ὅτι ὁ ἄριστος ἰατρός καὶ φιλόσοφος.

Alexandria, we have a commentary to the Hippocratic *Epidemics* (book 6) and Galen's *On Sects for Beginners*.¹⁵ And by an elusive author called Stephen of Alexandria or Stephen of Athens, we have commentaries on Hippocrates' *Aphorisms*, *Fractures*, and *Prognostic*, as well as on Galen's *Therapeutics to Glaucôn*.¹⁶ These commentaries are often lemmatic, that is to say that a passage from the original work is first quoted and then explained. They appear to be written 'ἀπὸ φωνῆς (from the voice [of the teacher])', meaning that they are notes 'dictated' during a lecture. As such they offer precious insights into the amphitheatres of Late Antiquity.

Commentaries explained the writers of the past in the light of concurrent doctrine. Students, however, do not only benefit from elucidation, but also from abridgment. We still have a group of texts called *Alexandrian Summaries* (also known as *Summaria Alexandrinorum* and *Ġawāmi' al-Iskandarānīyīn*), which purport to provide such abridgments. These *Alexandrian Summaries* only survive in Arabic and Hebrew translations, and should not be confused with the *Sixteen Books of Galen*, a canon of Galenic texts discussed below.¹⁷ The summaries constitute a divers cluster of texts: some of them not only summarise the Galenic work in question, but also contain additional material; some Galenic texts even survive in more than one summary.¹⁸ In the case of *On Sects for Beginners*, for instance, the abridgment is even longer than the original.¹⁹ Scholars have debated the question of their date and authenticity.²⁰ Notably, it is striking that none of these *Alexandrian Summaries* survives in Greek. As the *Alexandrian Summaries* are not homogeneous, one can only decide case by case whether or not an *Alexandrian Summary* represents the Arabic translation of an underlying Greek text. For example, there is little doubt that the *Alexandrian Summary* of Galen's work *On Sects of Beginners* is translated from a Greek original, both for linguistic reasons and because it shows close affinities to other texts from late antique Alexandria. This summary has common features with the Hippocratic commentaries discussed above, as well as the so-called *Viennese Tables*. The *Viennese Tables* (*Tabulae Vindobonenses*) are

¹⁵ Pritchett (1975), (1982); Duffy (1997).

¹⁶ Westerink (1985-1995), Irmer (1977); Duffy (1983); Dickson (1998). For the identity of this Stephen, see Wolska-Conus (1989, 1992); Pormann (2003); Roueché (1999).

¹⁷ Lieber (1981); Savage-Smith (2002); Pormann (2004a); Overwien (2009) 105-106.

¹⁸ Garofalo (1995) 65; Al-Dubayan (2000) 51-62.

¹⁹ Pormann (2004a) 17.

²⁰ See, for instance, Garofalo (1994) 333; Savage-Smith (2002); Pormann (2004a) 18.

branch-diagrams which occur in a Greek manuscript now kept in the Austrian National Library in Vienna (hence their name).²¹ A heading is normally followed by a number of definitions or parts, such as the following:

ὄγκοι τέσσαρες· φλεγμονώδης ἐξ αἵματος, οἰδηματώδης ἐκ φλέγματος, ἔρυσιπελατώδης ἐκ χολῆς ξανθῆς, σκιρρώδης ἐκ μελαίνης. γίνεται δὲ καὶ ἐκ φλέγματος.

There are four [types of] swellings: inflammation-like from blood; oedema-like from phlegm; carbuncle-like from yellow bile; and tumour-like from black bile. It is also caused by phlegm. Gunnert (1998) p. 143, n. 166.

All these three types of text, the commentaries, the *Alexandrian Summaries*, and the *Viennese Tables*, use similar didactic devices and share other characteristics.

There is, however, another genre of medical writing popular in late antique Alexandria which ought to be mentioned here although it will not be the focus of the present argument: the medical encyclopaedia.²² Galen never wrote a comprehensive book on the medical art which touches on all its aspects. He did, however, feel the need to arrange his own medical output so as to create a system; for this reason he wrote *On My Own Books* (Περὶ τῶν ἰδίων βιβλίων) and *The Order of My Own Books* (Περὶ τῆς τάξεως τῶν ἰδίων βιβλίων). Later authors, beginning with Oribasius of Pergamon (d. after 395), did write medical encyclopaedias with the express aim to give practitioners a well-organised and comprehensive handbook, so that they have easy access to the relevant information. The genre reached a peak with Alexandrian authors such as Alexander of Tralles (d. after 500), Aetius of Amida (fl. ca. 500–550), and Paul of Aegina (fl. ca. 640s). The last, as John Scarborough shows in his essay in this volume (pp. 252–256), included experiences from his medical teaching in his *Handbook* (Πραγματεία), especially in book six on surgery, where he is particularly original. From all these sources we can learn how the professors of medicine taught their subject in the lecture halls of Late Antiquity.

²¹ Notably in Vienna, Österreichische Nationalbibliothek, Ms. med. gr. 16 (olim 35); see Gundert (1998).

²² John Scarborough's contribution to the present volume discusses this aspect in great detail (see pp. 235–260).

The iatrosophists (professors of medicine) and the medical curriculum

So-called 'iatrosophists (ιατροσοφισταί, professors of medicine)' taught medicine in the Alexandria's 'academies (ἀκαδημαί)' and 'museums (μουσεῖα)'.²³ They focused on the academic teaching, lecturing in amphitheatres and explaining the medical classics such as Hippocrates and Galen. Yet they also appear to have engaged in bedside teaching, as one can see from hagiographical sources. Most of these iatrosophists remain anonymous for us, but there are some prominent figures whose names we still know. They include, for example, Gesius (early sixth century) and Akīlāōs, although the identity of the latter is difficult to establish.²⁴ Stephen of Alexandria and John of Alexandria constitute two names linked to various commentaries on Hippocratic and Galenic text discussed above.

Even if the professors who taught medicine in late antique Alexandria remain somewhat shady, we still have ample information about the medical curriculum that they taught and how they taught it.²⁵ First of all, medical education focused on two select groups of texts by Hippocrates and Galen. Especially the so-called *Sixteen Books of Galen* proved particularly popular. We have different versions of these *Sixteen Books*, but generally speaking they include a core of basic textbooks which Galen himself wrote specifically 'for beginners' (τοῖς εἰσαγομένοις, *li-l-muta'allimīn*).²⁶ *On Sects for Beginners* (Περὶ αἰρέσεως τοῖς εἰσαγομένοις) is generally the first, followed by *Art of Medicine* (Τέχνη ἰατρική); *On the Pulse for Beginners* (Περὶ σφυγμῶν τοῖς εἰσαγομένοις); *Therapeutics to Glaucōn* (Πρὸς Γλαύκωνα θεραπευτικῶν); *On Bones for Beginners* (Περὶ ὀστέων τοῖς εἰσαγομένοις); and so on. These *Sixteen Books* are works by Galen which survive both in the original and in Arabic translation.²⁷

In recent years, astounding archaeological finds have been made. The Polish mission under the supervision of Professor Majcherek has been excavating a large a complex of amphitheatres at Qumm ad-Diqqa in Alexandria.²⁸ These lecture halls can be dated to the fifth to seventh

²³ I draw on Duffy (1984) for the following sketch.

²⁴ Irvine & Temkin (2000).

²⁵ Iskandar (1976).

²⁶ Lieber (1981).

²⁷ For the Arabic translations, see Salīm Sālim (1977, 1982, 1988); and Wernhard (2005).

²⁸ Kamil (2005).

centuries AD; they are therefore likely to be the venue where the iatrosophists, as well as professors of other subjects, such as philosophy, gave their lectures and instructed their students. The amphitheatres vary in size, from seating a few dozens to several hundred students. Some of them have an elevated pedestal, which probably served as a chair for the professor. Let us now enter, so to speak, these lecture halls of late antique Alexandria and see how medicine was taught there.

Medicine and philosophy

We have seen above that philosophy played a major role in late antique Alexandria. The genre of the commentary enjoyed special prominence, with Aristotle's work being a favourite subject. It is therefore not surprising that certain philosophical ideas also entered medical commentaries. Stephen of Alexandria serves as an example for this phenomenon; he employed the four Aristotelian causes to interpret the Hippocratic *Aphorisms*, saying:

Ἐπίστησον δὲ ἐν τούτῳ τῷ προοιμίῳ καὶ θαύμασον τὴν τέχνην τοῦ Ἱπποκράτους καὶ τὸ τούτου ἐνθύμημα. παντὸς γινομένου πράγματος τέσσαρά ἐστι γενεσιουργικὰ αἷτια, ποιητικὸν ὀργανικὸν ὑλικὸν τελικόν, κτλ.

Also worthy of notice and admiration in this preface is Hippocrates' technique and his way of reasoning. Everything which comes into being has four generating causes: an efficient, an instrumental, a material and a final cause, etc. Westerink (1985-1995) i. 48.

Stephen explained Hippocrates in the light of Aristotle, who had first formulated the concept of the four causes. Those familiar with Aristotle's philosophy will, however, notice a slight differences between these four causes and those proposed here. Instead of an instrumental cause, Aristotle talks of a formal cause: the form of a table, for instance, – what it is for a table to be a table – makes a table into a table.

To illustrate how these causes work in physiological terms, we can take the example of hair. The ninth-century Syriac author Ibn Sarābiyūn applies these four causes to explain hair growth, saying:²⁹

²⁹ For Ibn Sarābiyūn, see Pormann (2004c).

(1) لما كان غرضنا أن نذكر الآفات العارضة للشعر فيجب علينا أولا أن نطلب السبب المولد للشعر ثم نرجع فنذكر الآفات العارضة له. (2) وهذه الأسباب هي للشعر كما هي لجميع الأجسام التي في الكون والفساد هو أربعة أسباب أعني المادة والأفعال والآلة والكمال فكذاك ينبغي لنا أن نطلب هذه بأعيانها في الشعر. (3) فمادة الشعر هي البخار الدخاني وذلك أن أجناس البخار جنسين كما تعلمنا ذلك عن أرسطاطاليس أحدهما يابس وهو الدخاني والآخر رطب وهو الضبابي فالبخار اليابس مناسباً للأرض والنار والبخار الرطب مناسباً للماء والهواء ومن قبل أن كونهما من هاذين فمادة الشعر ليست البخار الرطب بل البخار الدخاني اليابس فيقول إن تولده من مادة حارة يابسة. (4) فأما علته الفاعلية فهي الحرارة الملتهبة للبخار الدافع المخرجة له. (5) وأما علته الآلية فهي المسام في جلد الرأس وسائر البدن التي تلحج فيها البخار الدخاني لغلظه فيتلبد ويصلب فيصير شعرا. (6) وأما علته الكمالية العامية فهي التنقية للبدن والخلاص من الفضولات الدخانية الغليظة وأما الخاصة فهي للزينة والجمال بمنزلة شعر اللحية وإما للتوقية بمنزلة شعر الأجناف والحاجبين فلذلك صار نبات الشعر في الأبدان الحارة اليابسة كثيراً لأن الشعر محتاج في حدوثه إلى أن يستولي على البدن حرارة ويؤسسة لكيما يتولد فيه البخارات الدخانية التي هي المادة في تولد الشعر.

1) Since we aimed at discussing forms of harm befalling hair, we ought first of all to investigate the cause which generates it [hair], and then turn to forms of harm befalling it. 2) These causes for hair – like for all bodies subject to generation and corruption – are four: the matter [material cause], the effects [effective cause], the instrument [instrumental cause] and perfection [final cause]. Accordingly, we need to seek out these same [four causes] in the case of hair. 3) The matter of hair is a smoky vapour. There are two kinds of vapour, as we learn from Aristotle:³⁰ one is dry, it being the smoky one; the other is wet, it being the misty one. The dry vapour corresponds to earth and fire, while the wet vapour corresponds to water and air. Since the two [vapours] are generated by these two [elements], hair does not consist of wet vapour, but of dry smoky vapour. We can therefore say that hair is generated by warm and dry matter. 4) The effective cause is the heat which kindles the emerging smoke and pushes it out. 5) The instrumental cause is the pores in the skin of the head and the rest of the body, in which the smoky vapour gets stuck because of its being [too] thick, so that it is compacted, hardens and finally becomes hair. 6) The final cause is the cleansing of the body and the purging of thick, vaporous superfluities. 7) More specifically, it is either for the embellishment and beauty, as for instance the hair of the beard; or for protection, as for instance in the case of the hair of the eyelids or the eyebrows. Pormann (2004c) pp. 258–259 (translation slightly modified)

³⁰ Arist. *Met.* 378a18: ‘δύο μὲν γὰρ αἱ ἀναθυμιάσεις, ἡ μὲν ἀτμιδῶδης, ἡ δὲ καπνώδης, ὡς φαμεν, εἰσίν.’ Cf. id., *GC* 782b 8–20.

Ibn Sarābiyūn thus applied the four causes to explain the growth of hair in the following way. Dry vapour is the material out of which hair is made. Heat pushes it out, so it is the effective cause. The pores through which it has to pass are the instrumental cause. And the final cause is first of all the cleansing of the body, but also its protection, and its embellishment.

It was not only the four Aristotelian causes (in modified form) which physicians in late antique Alexandria used. Galen had already a keen interest in Stoic logic.³¹ Drawing on Stoic as well as Pneumatist sources, he developed a theory of three causes, which are different from the four Aristotelian ones.³² The *Alexandrian Summary to On Sects for Beginners* provides the following explanation of these three causes:

والأسباب منها ما يَرُدُّ على البدن من خارج ويقال لها الأسباب البائدة بمنزلة الضربة والنهشة ومنها ما تتحرك في البدن من داخل ويقال لها أسباب سابقة بمنزلة الامتلاء والعفونة ومنها ما يتقدمها أسباب آخر وتكون هي أقرب الأسباب إلى حدوث المرض ويقال لها أسباب واصله بمنزلة سخونة القلب في الحمى *

Some causes come to the body from the outside, and are called ‘initial causes’ like a blow or a bite. Some causes move inside the body and are called ‘preceding causes’ like repletion and putrefaction. Some causes are preceded by others, and these are closest to the onset [?] of the disease; these causes are called ‘connecting causes’ like the heat of the heart during a fever. Pormann (2004a) 21, 32, as T 6.

We thus have ‘initial (*bādī’a*)’ causes, called ‘antecedent (*προκαταρκτικά*)’ in Greek; ‘preceding (*sābiqa*)’, called ‘preceding (*προηγούμενα*)’; and ‘connecting (*wāṣila*)’, called ‘containing (*συνεκτικά*)’.³³ These three causes are also explained in the *Viennese Tables*:

τῶν αἰτίων: τὰ μὲν προκαταρκτικά ὡς ψῦχος ἔγκαυσις κόπος μέθη λοιμός, τὰ δὲ προηγούμενα πάχος χυμῶν πλήθος γλισχρότης, τὰ δὲ συνεκτικά ὡς ζέσις αἵματος σῆψις χυμῶν.

The following causes exist: antecedent, such as cold, burning, fatigue, drunkenness, and plague; preceding, such as the thickness of the humours, repletion, viscousness; and containing, such as boiling blood, putrefaction of humours. Gundert (1998) p. 132, n. 127.

³¹ Pellegrin *et al.* (1998); Morison (2008).

³² Hankinson (2003), (2008) 229-233.

³³ I follow Hankinson’s translations (2003, 2008) of the three terms; the Greek words were anglicised as ‘procatartctic’, ‘proegoumenal’, and ‘synectic’.

Later in the *Alexandrian Summary of On Sects for Beginners*, chapter 8, where Galen discusses the Methodists' rejection of hidden causes, this parenthesis occurs:

ما كان منها من الأسباب البائدة وما كان منها من الأسباب السابقة وما كان منها من
الأسباب الواصلة

... be it initial causes, predisposing causes or connecting causes... Pormann (2004a) 17, 32, as T 1.

The word 'causes' triggers a recitation of the three causes mentioned above. We can easily imagine a classroom situation where the professor explains the content of *The Sect for Beginners*. When he deals with the Methodists and their sceptical attitude towards causation, he or she might ask: 'What causes did Galen have in mind, students?', or something similar; and they would answer 'antecedent, preceding, and containing causes'.

This repetition of fundamental principles, this catechism-style teaching appears elsewhere in the *Alexandrian Summary of On Sects for Beginners*. In chapter 1, the author explains the names of the three sects as being derived from the most important tenets to which they adhere. Rationalists (λογικοί) are called this because they use reason (λόγος); Empiricists (ἐμπειρικοί) owing to their fondness for experience (ἐμπειρία); and Methodists (μεθοδικοί) since they follow one simple method (μέθοδος). This etymological explanation triggers again an explanation of the underlying principles:

يحتاج في الأسماء المشتقة إلى ثلاثة أشياء أحدها أن يكون الاسم المشتق مشاركا للاسم
الذي منه اشتق والآخر أن يكون معناه مشاركا لمعنى ذلك والثالث أن يكون آخر مقطع
الاسم المشتق مخالفا لآخر مقطع الاسم الذي اشتق منه

In the case of derived words, three things are necessary: 1) that the derived word share in the word from which it is derived; 2) that its [the derived word's] meaning share in the meaning of this [i.e. the word from which it is derived], and 3) that the last syllable of the derived word be different from the last syllable of the word from which it is derived. Pormann (2004a) 17, 32, as T 3.

This explanation of derivation is, of course, adapted from the beginning of Aristotle's *Categories* where he says:

παρώνυμα δὲ λέγεται ὅσα ἀπὸ τινος διαφέροντα τῇ πτώσει τὴν κατὰ

τοῦνομα προσηγορίαν ἔχει, οἷον ἀπὸ τῆς γραμματικῆς ὁ γραμματικὸς καὶ ἀπὸ τῆς ἀνδρείας ὁ ἀνδρεῖος.

When things get their name from something, with a difference of ending, they are called paronymous. Thus, for example. the grammarian get his name from grammar, the brave get theirs from bravery. Arist. *Cat.* chapter 1, 1a12–15; tr. J. L. Ackrill, in Barnes (1984) i. 3.

And again, one can just imagine the medical professor explaining the origin of the word ‘Methodists’, and then asking: ‘Students, what is the definition of derivation?’

The *Categories* are, without doubt, to philosophical teaching what *On Sects for Beginners* is to medical teaching: both constitute, in their respective fields, the most important and fundamental textbooks which all students had to master. At the beginning of this section we saw that the four Aristotelian causes were used in medical textbooks; the same is true for other fundamental Aristotelian concepts such as that of ‘paronymy’ or derivation. Therefore basic Aristotelian tenets entered the medical classroom in late antique Alexandria. Moreover, its philosophy was characterised by a certain eclecticism, meaning that Platonic, Neo-Platonic, but also Epicurean and Stoic ideas, often coexisted side by side. The quotation regarding the three causes, partly based on Stoic ideas, amply illustrates this. The examples above, however, also highlight another important trend, that of division or *diairesis*.

Divisions and branch-diagrams

The single most important philosophical influence on medical teaching in Late Antiquity is certainly the notion of division (called ‘*diairesis*’ in Greek, hence our word ‘dieresis’). In the *Alexandrian Summary* to Galen’s *On Sects for Beginners*, the author divides and subdivides all aspects of medicine, and even medicine itself. For example, medicine can be divided into two parts – theory (‘*ilm*’) and practice (‘*amal*’) – or into five – physiology (‘*ilm al-ṭabāʿī*’), aetiology (‘*ilm al-ʿasbāb*’), semiotics (‘*ilm al-ʿalāmāt*’), prophylactics (‘*ḥifẓ al-ṣiḥḥa*’), and therapeutics (‘*inṣilāb al-ṣiḥḥa*’). All these different branches are then further subdivided: physiology, for instance, into knowledge about

- 1) elements;
- 2) temperaments;

- 3) chymes;
- 4) parts (of the body);
- 5) faculties;
- 6) functions.³⁴

Moreover, anatomy (in the sense of both dissection and the discipline furthered by dissection) is divided in the *Alexandrian Summary* into two kinds: that which occurs by accident (e.g., during combat), and that which is undertaken purposefully.³⁵ We find the same division of anatomy in the *Viennese Tables*.³⁶ This twofold division further illustrates the method of *diairesis*, as well as the close link between the branch diagrams contained in the *Viennese Tables* and the text of the *Alexandrian Summaries*.³⁷

The device of division is also applied to diseases and their symptoms. Rabies is described in the following manner in this *Alexandrian Summary*:

وعرف أنه كلب كلب من هذه العلامات الدالة عليه وهي أن عينيه تكونان ناتئتين
ولسانه يكون خارجا عن فيه وذنبه يكون مسترخيا ويعطش ولا يشرب الماء

Furthermore one knows that it was a rabid dog from the signs indicating this, i.e. 1) that the eyes of the dog protrude, 2) that its tongue is hanging out of its mouth, that 3) its tail is slack, 4) and, although thirsty, it does not drink any water. Pormann (2004a) 17, 32; T 2.

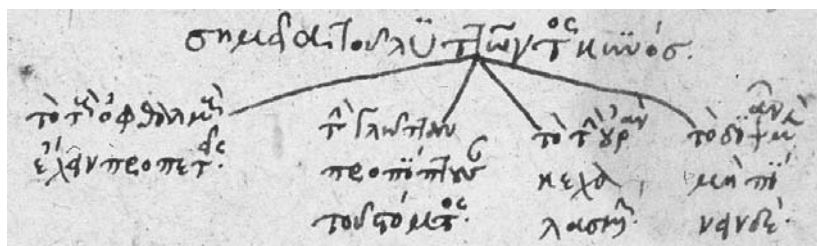


Illustration 1. Detail of the *Viennese Tables*, explaining the symptoms of rabies in the form of a branch diagram. © Vienna, Österreichische Nationalbibliothek, Cod. med. gr. 16, fol. 331v.

³⁴ Pormann (2004a) 12–13.

³⁵ Pormann (2004a) 19, 32; T 4.

³⁶ Gundert (1998) 117–118.

³⁷ See Gutas (2003) for different ideas how medicine fits into the division of the ‘sciences’ (*‘ulūm*)’.

And again, the *Viennese Tables* give similar information in the form of a branch diagram:

σημεῖα τοῦ λυττῶντος κυνός· τὸ τοὺς ὀφθαλμοὺς ἔχειν προπετεῖς, τὴν γλῶτταν προπίπτουσαν τοῦ σώματος, τὸ τὴν οὐρὰν κεχαλασμένην, τὸ διψᾶν μὲν, μὴ πίνειν δέ.

Signs of the rabid dog: 1) – having protruding eyes; 2) – having the tongue hanging out of the mouth; 3) – having the tail between the legs; 4) – and being thirsty but not drinking. Gunnert (1998) 120.

The method of division and sub-division is a mnemonic device. By compartmentalising the medical knowledge, it becomes easier for the student to remember the material. Division also allows one to grasp a subject in a way that suggests complete command over the matter in hand. The ensuing system is both complete and easily expandable by adding new divisions and subdivisions. There are many more examples of this technique of *diairesis* in the commentaries and abridgments. The branch diagrams, which visualised these divisions, also proved extremely popular.³⁸ The divided and subdivided material lends itself, as we have seen, particularly well to being repeated and tested through questions and answers.

Questions and answers

So far, we have mostly considered sources going back to late antique Alexandria, whether they survive in the original Greek or in Arabic translation. One later Arabic author, however, reflects the Alexandrian teaching tradition particularly well, and we shall turn to him and his work next. He is Ḥunain ibn Ishāq (d. 873 or 877), the famous Nestorian translator and physician. He wrote a long epistle about the Galenic work which he and his collaborators translated from Greek into Syriac and Arabic. At the beginning, after *On My Own Books* and *The Order of My Own Books*, he lists eighteen works by Galen which are fundamental textbooks, and which – slightly differently arranged – also form a version of the *Sixteen Books of Galen*. Then he says in a much quoted passage:³⁹

³⁸ For further examples, see Pormann (2004a).

³⁹ See also Bergsträsser (1932).

فهذه الكتب التي كان يقتصر على قراءتها في موضع تعليم الطب بالإسكندرية وكانوا يقرؤها على هذا الترتيب الذي أجريت ذكرها عليه وكانوا يجتمعون في كل يوم على قراءة إمام منها وتفهمه كما يجتمع أصحابنا اليوم من النصارى في المواضع التعليم التي تعرف بالأسكول [σχολή, مدرسة] في كل يوم على كتاب إمام إما من كتب المتقدمين وإما من سائر الكتب وإنما كانوا يقرؤها الأفراد كل واحد على حدته بعد الإرتياض بتلك الكتب التي ذكرت كما يقرأ أصحابنا اليوم تفسير كتب المتقدمين وأما جالينوس فلم يرَ أن يقرأ كتبه على هذا النظام لكنه تقدم في أن يقرأ من كتبه بعد كتابه في الفرق كتبه في التشریح ولذلك أنا مفتتح من ذكر كتبه بتعديد كتبه في التشریح ثم متبعتها بسائر كتبه على الولاء وعلى النظام والترتيب الذي وضعه هو

These are the books which were solely read at the place of medical instruction in Alexandria. They [sc. the Alexandrians] used to read them in the order just mentioned, and gathered each day to read and interpret one of the main works, just as our contemporary Christians gather at the places of learning known as *scholē* each day in order to study one main book, be it by the Ancient or be it a different book. They [the Alexandrians] used to read [the other books by Galen] individually, each on its own, after they have been instructed in these books which we have just mentioned, just like our contemporaries read the commentaries of the Ancients. Galen was not of the opinion that one ought to read the books in this order, yet he serves as a precedent insofar as [he says that one ought] to read his books *On Anatomical Procedures* after his book *On Sects for Beginners*. Bergsträsser (1925) 18–19 ar

Ḥunain thus clearly links the teaching of medicine in late antique Alexandria to practices in his own day among his coreligionists. As he had studied in Alexandria himself, he is well placed to make such a comparison.

Ḥunain was not only a translator of Greek medical text, but also a prominent practitioner and author in his own right, for instance, in the area of ophthalmology.⁴⁰ And he had an acute interest in medical education: he wrote a number of textbooks such as his *Introduction to Medicine* (*Kitāb al-Mudḥal*);⁴¹ *Questions on Medicine for Beginners* (*Kitāb al-Masā'il fī al-ṭibb li-l-muta'allimīn*);⁴² *Questions Concerning the Eye* (*Kitāb al-Masā'il fī al-'ain*);⁴³ and *Questions on the Epidemics* (*Masā'il al-Abīdīmiyā*).⁴⁴ In all these works, Ḥunain uses the principle of

⁴⁰ Cf. e.g. Meyerhof (1928).

⁴¹ Vázquez de Benito (1979).

⁴² Ghalioungui (1980).

⁴³ Spath & Meyerhof (1938).

⁴⁴ See Pormann (2008b).

dehaíresis in order to organise his material and to facilitate its assimilation. The last text has received little scholarly attention,⁴⁵ and lends itself well to illustrating the genre of question-and-answer literature.⁴⁶

Hunain's *Questions on the Epidemics* survive in a single manuscript, and only the *Questions* regarding Book Two and the last third of Book Six of the Hippocratic work are extant.⁴⁷ They do not, in fact, represent questions culled from the *Epidemics* themselves, but rather Galen's *Commentary* on them.⁴⁸

Typical questions are the following, regarding an epidemic outbreak of carbuncles in Cranon:⁴⁹

[11] ما بال الجمرة التي بقرانون كان فيه شيء زائد على سائر الجمرة [12] لشدة قوة العفونة كانت هناك [13] ولم اشتدت قوة العفونة هناك [14] لاجتماع أسباب كثيرة من الأسباب التي تعيس؟ على حدوثها [15] أولها أمطار جاءت في أول الصيف [16] والسبب الثاني مجيء تلك الأمطار كان الصيف كله [17] والثالث أنها كانت أمطار قوية شديدة لو كانت مثلها في الشتاء أفسدت مزاجه [18] والرابع أنها كانت مع حر والحر لا محالة لا يكون إلا مع عدم الرياح الشديدة [19] والخامس أنه كانت الرياح إن هبت في وقت من الأوقات إنما كانت تهب من جنوب وتحل القوة وتولد الأمراض الحادثة عن العفونة [20] والسادس أن قرانون هذه مدينة أيطاليا □1 موضعها منه موضع عميق جنوبي [21] ولك أن تضيف إلى هذه الأسباب شيئا سابعاً أن رطوبة تلك الحال من أحوال الهواء كانت تمنع من تحلل الفضول من الأبدان [22] فكانت تلتبث فيها داخل فتقوي وتشتد عفونتها

11) Why is it that in the carbuncles which were in Cranon there was something more than in other carbuncles? 12) Because of the extreme power of putrefaction which existed there. 13) And why was the power of putrefaction extreme there? 14) Because of a concurrence of many causes which led [?] to its [the putrefaction's] occurrence. 15) The first [cause] was

⁴⁵ Bryson (2000) 35-37 is a notable exception.

⁴⁶ See also Akasoy (2006) 113-118.

⁴⁷ The manuscript, Milan, Ambrosiana, MS B 135 sup., was produced by the Scottish monk David Colville (d. 1629) in the Escorial in order to fill the gap in the Greek text of Galen's *On Hippocrates' 'Epidemics' II* and the last third of *On Hippocrates' 'Epidemics' VI* were then, and are still, lost in the original Greek. On fols. 119-144, he also copied the relevant parts of Hunain's *Questions on the Epidemics*. For a detailed discussion, see Pormann (2008b) 259-263.

⁴⁸ Galen's *Commentary* is partly edited and translated in: Wenkebach & Pfaff (1934); Wenkebach (1936); Wenkebach & Pfaff (1956); Wenkebach & Schubring (1955); Pfaff (1960).

⁴⁹ Previously edited and translated in Pormann (2008b) 282-283; the numbers in square brackets refer to the paragraph numbers there.

the rain which came during the summertime; 16) the second cause was the fact that the rain came during the whole of the summer; 17) the third that the rain was strong and severe – if such a rain occurred during the winter, it would corrupt its [the winter's] temperament; 18) the fourth that it was accompanied by heat – heat being necessarily accompanied by an absence of wind; 19) the fifth that the winds, even if they blew from time to time, only did so from the south, thus dissolving the strength and generating diseases caused by putrefaction; 20) sixth that this Cranon is an Italian city, situated in a southern depression; 21) you can add to these causes a seventh, namely that the moisture of this state of air was preventing that the superfluities were dissolved [and expelled] from the bodies. 22) Therefore they [the superfluities] lingered inside them [the bodies], so that the putrefaction became stronger and more severe. Pormann (2008b) 282–283.

Without going into too much detail, it is easy to see the affinity between the last answer and both the *Alexandrian Summaries* and the *Viennese Tables*. The various reasons why putrefaction occurs are numbered. Causes one to six (§§ 15–20) are taken from Galen's work; the last, unnumbered one, is provided by Ḥunain himself. One could easily imagine these causes forming part of a branch diagram. The question-and-answer format thus constitutes a natural complement to the summaries and branch diagrams in the educational arsenal.

Avicenna's Canon and the teaching of medicine

In order to illustrate the impact which the teaching of medicine in late antique Alexandria had on the subsequent development of medicine, we can look at the *Canon of Medicine* (*Qānūn fī ṭ-ṭibb*), known in Latin as *Canon Medicinae*, by Ibn Sīnā (Avicenna, d. 1037). Ibn Sīnā is celebrated not only for his medical, but also for his philosophical achievements, and thus continues the tradition of combining philosophy and medicine.⁵⁰ In his *Canon* we find other instances of Alexandrian influence. The *Canon* itself is organised hierarchically: it consists of five books, each again divided into so-called *fanns* (roughly 'disciplines'); the latter are further divided into *ta'līms* ('teachings'); *maqālas* ('treatises'); *ḡumlas* (sums); *faṣls* (chapters); and *bābs* (sub-chapters); however, not all these different levels are employed in each case. Book three can serve as an example; it deals with illnesses 'from tip to toe', that is, internal diseases occurring at a specific place of the

⁵⁰ See Gutas (1988).

body. The book is divided into 22 ‘disciplines (*fanns*)’, starting with ‘diseases of the head and the brain’ (1), the ‘diseases of the nerves’ (2), ‘the anatomy of the eye’ (3), ‘the states of the ear’ and so on, ending with the ‘male reproductive organs’ (20), and ‘the female reproductive organs’ (21 and 22). The first *fann* is then again divided into five ‘treatises (*maqālas*)’:

- 1) on ‘general principles of the diseases of the head and brain’ in twenty chapters (*faṣls*);
- 2) on ‘different headaches’ and their treatment in 35 chapters;
- 3) on the ‘inflammations (*awrām*) of the head’ in 12 chapters;
- 4) on ‘the diseases of the head, which particularly impair the functions of sensation (*ḥiss*) and guidance (*siyāsa*)’ in 11 chapters;
- 5) on ‘strong brain diseases and ailments [impairing] the the functions of voluntary movement’ in 9 chapters.

We therefore see the principle of *diairesis* at work. Continuity with the Alexandrian tradition, however, also extends to the level of content. Let us take book 1, discipline (*fann*) 2, teaching (*taʿlīm*) 2, sum (*ḡumla*) 1, chapter (*faṣl*) 1 as an example. In it, Ibn Sīnā provides ‘a general discussion of causes’, saying that ‘the causes for the states of the body – i.e., health, disease, and the state between the two –, are three namely ‘preceding (*sābiqa*)’; ‘initial (*bādiʿa*)’; and ‘connecting (*wāṣila*)’, and he goes on to define them.⁵¹

Ibn Sīnā therefore organises his medical encyclopaedia strictly according to the principles of *diairesis* and dwells at great length on theoretical topics such as medical epistemology (nature of causes), but also general anatomy and nosology. In both these aspects he goes beyond the medical encyclopaedias of late antique Alexandria. For the latter are only organised into books and chapters, with very few exceptions, and lack theoretical discussions. Paradoxically, Ibn Sīnā breaks with part of the Alexandrian tradition, that of practical encyclopaedias, by continuing other strands, that of linking medicine to philosophy, and that of organising knowledge in a mnemonic way by dividing and sub-dividing it. To put it differently: in his *Canon*, Ibn Sīnā continued three trends prominent in Late Antique Alexandria. He wrote a medical encyclopaedia; he applied late antique philosophy to medical knowledge; and he imposed a strict hierarchy of knowledge to

⁵¹ i. 79 ed. Būlāq.

medicine (*diairesis*). Yet, he departed from Alexandrian models in that he combined the encyclopaedic and the exegetical traditions.

Many later authors wrote commentaries and abridgments of the *Canon*, and it quickly emerged as the most important medical textbook both in the East and the West. Not all physicians, however, viewed this tendency to summarise and abridge with a favourable eye. Ibn Riḍwān (d. 1068)⁵² criticised the reliance of students on such abridgments and summaries, and ‘Abd al-Laṭīf al-Baġdādī (d. 1231) followed in this vein. He insisted that textbook knowledge is not sufficient for practising medicine, and lambasted students for their over-confidence which they derive from knowing few definitions taken from Ibn Sīnā.⁵³ Despite these disparaging assessments of medical education based on summaries, abridgments, and encyclopaedias, the *Canon* remained central to medical teaching for centuries to come, and thus influenced medical education on the different shores of the Mediterranean.

Conclusions

We have observed two important phenomena in the teaching of medicine in late antique Alexandria. Philosophical concepts, especially Aristotelian ones, influenced medical theory, and were applied to the explanation of physiological and nosological processes. The notion of *diairesis*, the division and subdivision of all subject matters into numerous parts on different levels, ruled supreme in the classrooms. Moreover, we have seen that commentaries occupied a prominent place not only in the area of philosophy, but also of medicine. In Ibn Sīnā’s encyclopaedia, the *Canon of Medicine*, the two genres of the summary and the commentary came together. Both, after all, strive to systematise knowledge and equip the practitioner to diagnose and treat patients. The main difference between the two appears to be that abridgments were targeted specifically at the medical student, the beginner, whereas encyclopaedias served as reference books for the experienced practitioner. This said, the latter did contain material reflecting classroom teaching.

How then did the teaching techniques of late antique Alexandria shape medicine in the centuries to come? Space only permits a rough outline of the intellectual forces at work, but some clear lines do

⁵² See Ibn Riḍwān (1986), p. 90, lines 6–10; Iskandar (1976) 242.

⁵³ Joosse & Pormann (forthcoming).

emerge. Arabic-writing authors in the Islamic world continued the trends and tendencies of Late Antiquity. Ibn Sīnā's *Canon* constitutes a prime example of this process, as we have seen. The *Canon* enjoyed great popularity in the Islamic world, and was, in its turn, abridged and commented upon. Yet it also reached the medieval Christian world in Latin translation. Translators such as Constantine the African (d. before 1099) and Gerard of Cremona (d. 1187), working in Southern Italy and Southern Spain respectively, rendered many Arabic medical texts into Latin and made them thus widely available in Europe.

The Latin translation of Avicenna's *Canon* by Gerard met with similar popularity in the West as did its original in the East. It, too, was the object of abridgment and commentary. That by Gentilis Fulginas (d. 1348) had a major impact on the development of university medicine in the medieval Latin world.⁵⁴ Professors taught, and students learned, medicine from the *Canon*, which became core curriculum in the nascent medical faculties of the Old Continent, especially in Italy (e.g. Bologna and Ferrara) and France (Paris, Montpellier). Avicenna's *Canon* found so much favour because it was so well organised. Topics are divided, sub-divided, and sub-divided further so as to give structure and order to the medical system. In Montpellier, for instance, Avicenna still dominated the curriculum in the 1530s, when Rabelais was a student there, with four out of six lectures devoted to 'the prince of physicians' (as he was known).⁵⁵ In Italy as well, he was the general staple for students well into the seventeenth century.⁵⁶ Thereby, the teaching techniques of division and the influence of philosophy on medicine which emerge in Late Antique Alexandria exercised their sway over generations and generations of students in both the East and the West.

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⁵⁴ See French (2001).

⁵⁵ Antonioli (1976) 43.

⁵⁶ Siraisi (1987).

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‘Because my son does not read Latin’
Rhetoric, competition and education in Middle
Dutch surgical handbooks¹

Karine van 't Land

Summary

Two late medieval handbooks of surgery, written in Middle Dutch, are used here as sources for answering the question: which value did book-learning and formal education offer to non-academic late medieval surgeons? The authors, the Flemish surgeons Jan Yperman (†ca. 1330) and Thomaes Scellinck van Thienen (fl. 1343), probably both lacked a university education, and wrote in the vernacular. In their works, they employed the fiercest rhetoric possible against the empirics or lay surgeons. Their knowledge of surgery was much less than that of Yperman or Scellinck, and accordingly, the variety in their remedies was very poor. Therefore, the lay surgeons' results were bad, and it was shameful and a disgrace that they could actually practice the way they did. These and similar accounts of lay surgery, coming from the learned tradition of surgery, have often been believed at face value. However, close-reading of the surgical texts provides a much more nuanced image of lay surgeons as confident practitioners, sharing the medical discourse of their more learned colleagues. Lack of knowledge may even have benefitted surgical practice, as the predictable remedies of empirics presumably appeared far less threatening than the varied and sometimes invasive techniques of learned surgeons. Furthermore, lay surgeons were not hampered by academic scruples in claiming the most fantastic cures, which may have benefitted their business on the competitive medical market of the late Middle Ages.

The Flemish Middle Ages proved an extremely fertile ground for surgical writing in the vernacular.² Not only was almost every large Latin surgical manual translated in Middle Dutch. Two Flemish

¹ I would like to thank Prof. dr. P.G.J.M. Raedts for his valuable comments on an earlier version of this article, and Prof. dr. H.F.J. Horstmanshoff for his encouragement and trust.

² Huizenga (2003).

surgeons, Jan Yperman († *ca.* 1330) and Thomaes Scellinck van Thienen (fl. 1343), wrote extensive, original handbooks in their vernacular language.³

By doing this, they constructed a new genre of medical education, yet building strongly on the Latin tradition of surgical handbooks. Both named as their motivation to endeavour on such a grand enterprise the ignorance of their sons. As they had not learnt Latin, their fathers were forced to convey their knowledge of surgery in Middle Dutch.

Now, scholars have searched for archival traces of Flemish sons of great surgeons, and nothing has been found. The son-topos was a modest and elegant explanation for sure, and this was only the first of the rhetorical features of their writing.

In this article, I will try to answer the following question: which value did book-learning and formal education offer to non-academic late medieval surgeons? The place of learning and education in surgery was an important topic in the Flemish surgical handbooks, intimately connected with the competition between learned and lay surgeons. The special place of the non-academic, yet learned surgeon should be realized in this context. He was separated from two other groups of surgical practitioners: the academic, learned surgeon, and the lay surgeon or empiric. As will be shown later, academic surgeons occupied a much more clearly defined place in the medical hierarchy than learned, non-academic surgeons writing in the vernacular. On the other extreme, the group of empirics or uneducated practitioners was a large and fluid one, composed of many different types of healers. As by far the most of these lay surgeons have not left handbooks or other easily accessible traces, not much is known about the group of empirics. Michael McVaugh warns that modern researchers should not be prejudiced: some of the empirical, wandering eye healers of the thirteenth and fourteenth centuries wrote specialized Latin ophthalmologic treatises.⁴ However, it will be assumed here that the majority of the lay surgeons or empirics, which were mentioned by Yperman and Scellinck, had not received much formal education, and that their knowledge did not come from books, but from practice only. When speaking about empirics, lay healers, or uneducated surgeons, I will focus on this group.

Yperman and Scellinck eagerly tried to define their superior type of surgery against the surgery of the many lay practitioners. This may

³ Van Leersum (1912); van Leersum (1928).

⁴ McVaugh (2001) 310-340, 337.

have been a problematic task. McVaugh even states that it would not always have been easy to distinguish non-academic, empiric practitioners from academic surgeons 'on the grounds of their ability or intelligence or technical skill.'⁵ When it comes to non-academic surgeons educated in the vernacular, the difference between them and their lay colleagues might have been even less obvious to the broader public. It seems only natural, however, that Yperman and Scellinck answered positively to the question whether education added value to a surgeon's qualities. Book-learning was highly advantageous to a surgeon, and this was certainly the case in the competition for patients and money with lay surgeons. Scellinck, for instance, told his 'dear children' that they should mind his writing on head wounds well. He had written more than was strictly necessary for good surgical practice, and that was because of the backbiters – the lay masters. Scellinck wanted to prepare his children for the moment that the people, surrounding the patient with a terrible head wound, would ask: 'Tell us about the reasons you have.' Because of Scellinck's abundant learning, his children would know of many more reasons than the lay surgeons, and their smartness would win the favour of the people.⁶

As research method, I will trace some of the most notable rhetorical aspects of Yperman's and Scellinck's manuals. Rhetoric exerted a huge influence on surgical practice, as can be concluded from Scellinck's advice to have more to say than others. It was of great importance in the competition between the learned and the lay masters, and left its marks on the surgical handbooks as well. A focus on rhetoric prevents us from taking the texts too literally. All too often, a learned surgeon's objections against lay masters have been taken at face value, as voicing the objective truth about the skills of learned surgeons, in opposition to the terrible state of practice by lay surgeons. In our society, with its emphasis on education, it is seductive to believe that a huge abyss yawned between the educated and the uneducated surgeon. The notion of rhetoric warns us that the situation may not have been that simple.

⁵ *Ibidem* 320.

⁶ Scellinck 23 'Lieve kinder al hebbe ic ghescreven een corte cuere vanden wonden van den hersenbecken en houtse niet voer onweert want si es herde orberliic ende goet maer nochtan en wil ic niet laten om der clappers wille om dat tfolc seggen soude wildi reden daertoe doen ende ic sal u dat scriven noch meerder [redene dair af] dan alle surginen die niet meesteren siin die niet phisiken weten oft connen.'

The handbooks of Yperman and Scellinck are used as similar and comparable works, stemming from the same tradition, time and space.⁷ This approach seems apt for this rather broad and exploring article. However, it should be kept in mind that on a closer look, many relevant differences would exist as well. For example, Scellinck, the later writer, was far more outspoken than Yperman in his disgust of lay surgeons. I have presented the editions of the handbooks as representations of the actual thoughts of the two surgeons, which is not entirely correct. The editions of Van Leersum, however valuable, suffer from many mistakes,⁸ because they were based on much-copied texts that were part of larger compilations, from about a century later than the original texts. Again, this should be seen in the light of the broadness of the article. Accurate study of the manuscript tradition⁹ would lead too far afield for this sketch of the benefits of formal education for learned, yet not-academic surgeons in the Flemish Middle Ages.

I will first go into the broader background of the subject: the development of a surgical tradition, the place the Middle Dutch handbooks occupied in it, and surgical education. Then the topic of rhetoric and competition will be addressed. The value of education in everyday practice will be traced in the encounters between surgeons, as related in Yperman's and Scellinck's handbooks. In the end, I will face medieval reality, or at least try to come as close as possible. The lay surgeons' actions – the things they actually did to their patients, according to the learned surgeons – will be at the centre of attention. Did education really make a difference in the competition on the medieval medical market? Were the repeated outbursts of the apparently much-plagued Flemish surgeons a sign of the weak position of the uneducated? Or did Yperman and Scellinck merely put up a smoke screen, suggesting a difference no one but the learned surgeon noticed?

Surgical education and the life of Yperman

The handbooks and careers of Yperman and Scellinck form a small part of the history of medieval surgery. According to traditional

⁷ Nothing is known about the relation between the two works. Scellinck did not mention Yperman's name or work in his handbook. Huizenga (2003) 146-147.

⁸ Müller & Keil (1982) 331-345.

⁹ Huizenga showed how useful and illuminating this kind of study can be in a study of the textual tradition of Yperman's tract; Huizenga (2002) 97-129.

historiography, the development of surgical education is marked by progress. The discipline struggled to untie itself on the one hand from the dry, theoretical learning of the academic physicians, on the other from the stupidity of the uneducated empirics.¹⁰

Surgery used to be part of general medical learning. The *Hippocratic Corpus* treated surgery just as any other subject, Galen wrote on surgical topics in his immense oeuvre, while considering himself a physician, the great Avicenna covered surgery in parts of his *Canon medicine*. Surgical learning started to emancipate from medicine in twelfth-century Italy, where Roger Frugardi composed his *Chirurgia* about 1170.¹¹ In the next century, other writers like Roland of Parma, Bruno Longoburgo, and William of Saliceto based a new genre of surgical learning on this tract.¹² It should be kept in mind, however, that these texts were written in the context of the Northern Italian university, where medicine and surgery were taught side by side. Many of the Italian surgical writers were physicians as well as surgeons; many of them stressed the importance of combining thorough medical knowledge with surgery.

In the thirteenth century, the new genre of the surgical text made its way to France and Paris, where learned surgery and medicine were much stricter separated than in Italy. At the University of Paris, only medicine was taught, and the learned *doctores medicine* tried to distinguish themselves as clear as possible from other parties.¹³ Surgeons had to establish their own, independent college with royal help in the thirteenth century. The three great surgical writers from the late thirteenth and fourteenth century, Lanfranc of Milan, Henri de Mondeville, and Guy de Chauliac, were not at all independent from learned medicine, however. All three of them can be considered *doctor medicinae* as well as *cyurgicus*.

From the fourteenth century on, the Latin, scholastic knowledge of learned surgical manuals was translated, adapted, compiled and

¹⁰ McVaugh (2001) 320.

¹¹ For an excellent and recent overview of the surgical tradition in the Middle Ages, see McVaugh (2006). Because this article has been written before this work was published, it has not benefitted fully from McVaugh's achievement.

¹² Siraisi (2001). Elsewhere she states: 'Yet in the twelfth and thirteenth centuries the idea of treating surgery in a separate, specialized textbook was itself a innovation in western medicine; each author plainly gave serious and independent consideration to the objectives of his book, the arrangement of its content, and the emphasis to be given to different topics', in Siraisi (1990) 167.

¹³ Cf. O'Boyle (1994) 156-185.

rewritten in the vernacular languages. Yperman's and Scellinck's works were part of this development, as specimens of the rather rare original surgical handbooks in the vernacular. Yperman sided with the physician-surgeons: he wrote a small book on medicine in Middle Dutch too, and insisted that surgeons should have medical knowledge as well.¹⁴ Thus, while the learned surgical handbook emerged as a separate genre, its learned authors seemed reluctant to leave the rank of the *doctores medicinae*. They were all the more eager to distinguish themselves from the so-called empirics, the uneducated lay surgeons – and the goal of this article is to determine how successful the Flemish surgeons may have been in this quest. Yperman, who reached for medical knowledge, and Scellinck, who agitated vehemently against competitors without learning, neatly fitted in the tradition, both in their own way.

Some remarks on the actual education Yperman and Scellinck and their typical lay competitors received seem apt here. Not much information has survived. We can assume that the learned, yet non-academic surgeons acquired their knowledge of Latin at the town school or Latin school. By the fourteenth century, almost every town in the Low Countries had one such school within its walls. Many a town youth learnt his Latin there,¹⁵ and it seems probable that it was on the Latin school that Yperman and Scellinck received the education necessary to read the Latin surgical handbooks. It does not seem likely, however, that the learned surgeons received a university education afterwards. Yperman mentioned in his handbook: 'As master Lanfranc taught me' – and Lanfranc did teach surgery at the surgeons' college in Paris. This has been taken as evidence of a university career for master Yperman, together with the 200 *sols parisis* which he received from the town of Ieper between 1297 and 1300. The two pieces of evidence seem a bit too meagre to prove Yperman's attendance at university,¹⁶ also because Yperman mentioned many long-gone authoritative masters, who had taught him many things, through his handbook. After the Latin school, Yperman and Scellinck probably learnt surgical practice while they were serving their apprenticeship, presumably with an educated surgeon, who owned a collection of books. Most lay surgeons or empirics may have learnt to read and write a bit in the

¹⁴ Edited as: Elaut (ed.) (1972).

¹⁵ M.A. Nauwelaerts, 'Scholen en onderwijs' in: A.G. Weiler en W. Prevenier (eds), *Algemene geschiedenis der Nederlanden. Deel IV: Middeleeuwen* (Haarlem 1980), 366-371.

¹⁶ Huizenga (2005) 190.

'primary schools'.¹⁷ Most likely, they learnt the art of surgery with an unlettered master.

Although nothing is known about his education, Yperman's life as a town surgeon can be fairly well reconstructed. The archives of the town Ieper have been thoroughly studied by the end of the nineteenth and the beginning of the twentieth century, before they were completely destroyed during World War I.¹⁸ In contrast, no traces of Scellinck's biography have been found in archives.¹⁹ By 1304, Yperman was mentioned in the town accounts as surgeon in the Belle Hospital.

From the archival data, we do not get the impression that Yperman's learning was highly valued. His salary seemed rather poor, when compared to the town's physicians: while Yperman received four Parisian pounds each year, raised to ten pounds by 1327, they were paid up to 80 pounds annually. Apparently, Yperman did not abundantly enhance his income with private fees, as in 1310 he bought a house outside the city walls, where he lived surrounded by poor weavers. Only later, when the city council had asked him to leave this place, Yperman moved to a spacious house next to the hospital. The town surgeon should live within the walls, where he could be summoned at night, when the gates were closed. In 1317, the council granted Yperman a subsidy of two pounds for buying this more fitting accommodation. One room of his new house was rented by the aldermen, so that they could assemble there. Should this fact be interpreted as a sign of honour, of poverty, of a subordinate position of the town surgeon? It is difficult to tell. By 1329, Yperman was mentioned for the last time in the archives, and in 1332 a new master made his appearance.²⁰

Rhetoric and competition

Competition was a powerful incentive for rhetoric in the surgical manuals. To investigate the relevant rhetoric, I will use the method of the New Rhetoric movement. The New Rhetoric movement came up in second half of the twentieth century, and exposed any text as being

¹⁷ A.M.J. van Buuren, '*Want ander konsten sijn my te hoghe*. De stadschool in de Nederlanden in de late Middeleeuwen', in: R.E.V. Stuip, C. Vellekoop (eds), *Scholing in de Middeleeuwen* (Hilversum 1995) 221-238, 223-225.

¹⁸ Tricot (1990) 78-86, 78.

¹⁹ Huizenga (2003) 143.

²⁰ *Ibidem*, 79-80.

subject to its own rhetoric laws. New rhetoricians used the classical precepts of Aristotle, Cicero, and Quintillian as ways to explore the rhetoric aspects of especially contemporary scientific texts.²¹ I will do the same for the medieval surgical handbook in the vernacular.

Two aspects of rhetoric in Yperman and Scellinck's texts will be discussed here, *pathos* being the first of them. Arousing *pathos* or intense, truly-felt emotions in the listener was an important function of classical rhetoric, and we find its medieval surgical counterpart in the passages against the ignorant lay surgeon. Yperman and Scellinck tried to stir flamboyant emotions against uneducated practitioners, calling them, for instance, worse than brigands waiting for attack in bushes. They repeatedly told their dear sons about the ignorance of lay practitioners, and the terrible consequences it could have.

'Nu sie ic dat tmeeste deel der surginen siin leeck ende ongheleert dwasen ende sotten ende dorperen dwelc groot jammer is want men met recht dat niet ghedoghen en soude want si siin rovers boffers clappers ende ondercruypers...'

And now I learn that the largest part of the surgeons is lay, and consists of uneducated fools and idiots and cracker-barrel minds. This is a great pity, and it should not be tolerated, with right and reason. As they are robbers, spongers, swankers, and interlopers... Scellinck 3.

Stout language indeed, and charged with emotions about all this injustice to educated surgeons, and outright danger to the greater public. The *pathos* was certainly effective.

A related rhetorical feature of the manuals was the *enargeia* or graphic representation, here of surgical practice. Classical orators used *enargeia* to enhance the power of their rhetoric: a judge for instance would be much easier persuaded if he saw the described scene visualized before him. One technique to achieve visualization was the use of many lively details, and the surgical authors employed it in their depictions of the gap between themselves as learned surgeons and the other practitioners. Quite graphically, they painted histories of heroic cases, shocking events, or empirics' blunders in their handbooks. These stories usually demonstrated a clear division of roles between learned and ignorant surgeons. The rhetorical function of the stories becomes extra clear when their repetitive character is taken into account.

²¹ Perelman & Olbrechts-Tyteca (1969). Barton (1997) 17-20 applied the approach of the New Rhetoric in her work on classical scientific texts.

Authors often retold histories they found in earlier handbooks, and they were rather negligent in announcing this to their readers. Thus, the *enargeia* did not enhance the historical trustworthiness of the handbooks or anything of the kind, but rather seemed to serve as a rhetorical tool to stress the contrast between skilful learned surgeons and incompetent empirics.

An instance taken from the Flemish handbooks: once upon a time, Scellinck rode on his horse through the town of Gembloux, and was immediately fetched by some of its citizens. In a large hall, someone was bleeding to death! The learned surgeon hastened to the hall, and found the victim of other surgeons lying on a table, looking death pale, like ashes, surrounded by many onlookers. Three surgeons tried to stop the bleeding of his hand by burning the spot with iron. They had only made matters worse. Now, the blood sprang up from the hand, like a man urinating at all might. At that point, the educated surgeon stepped forward. He pressed the wound with his finger, and the bleeding stopped. Hastily, he ordered for two priests. One provided the patient with the Last Rites, while the other stopped the bleeding with his finger after the instructions of the surgeon. So, Scellinck’s hands were free, and during absolution, the surgeon prepared a plaster. He bound the wound firmly. The patient’s life was saved. Had it not been for Scellinck, he would have lived only for the time of three or four Our Fathers.²²

²² Scellinck 49-50 ‘Nu wil ic u segghen wat mi eens gheviel te gemblies. Ic quam daer riden op mijn paert doer die stadt recht ieghen die vleeschhalle ende daer quamen [vele] lieden mi ieghen ende baden mi of ic af sitten woude ende dat ic met hem gaen woude. Ende si leiden mi op een sale die al vol lieden was en der op lach een man die ghewont was in siin hant ende meester jan van gembloes hadde hem onderstaen ghehat meer dan vi weken. Ende die hant was soe seer verrot dat een ader al doer gherot was. Ende bloede alsoe zeere dat het op spranc alsoe hoghe ende alsoe seere als een man die seere piste. Ende daer stonden drie oude meesters ende heeten drie isers met hoefden ende bernden die ader. Ende soe sij meer bernden soe si sterkeliic meer bloede ende die man lach of hi doot gheweest hadde want die ader was met den bernen alsoe verscoert ende verhit dat die man was ghescepen onder haer hande als een dode ende alsoe bleec int aensicht als die asse Doen ginc ic tot hem ende leide minen vingher op die ader ende stoptese ende dede haestelicc comen .ii. papen metten heylighen sak[r]amente ende metten heylighen olisel ende ic gaf die ader den eenen pape ende ic dedese hem stoppen tot dat hem die ander pape hem siin biechte ende sakarment ende siin olisel ghegeven hadde. Ende die wile dedic halen ongheblust calc ende ghepulverseert ende maecte veel plaesteren van werke ende nettese in dat wit vanden eyeren ende ic werp die wonde al vol van den levenden calccke ende leyder op die plaesteren ghenet in dat wit van den eyeren. Ende ic bonse daer op suverliic ende die man ghenas ende en hadde ic daer niet ghecomen die man en hadden niet gheleeft iii of iiii pater noster tiits’.

Such vivid details, such a lively scene! We can easily imagine the amazement of the bystanders, and the perfect opportunity this made for a thunderous speech by the learned surgeon. His reputation grew to great heights, while the other masters suffered a painful defeat in their own town. Life should always be like this.

Yperman and Scellink also drew short but lively accounts of debates between the two competing groups, combining *pathos* and *enargeia*. Thus, the vivid scenes give an impression of the actual rhetoric that was going on at the patient's bedside or at the marketplace. The rhetoric of the Middle Dutch surgical handbooks offers a unique opportunity to analyze the construction of a vernacular yet bookish surgery, competing heavily with less educated practitioners.

Between masters

From the handbooks, we get the impression that the more and less educated surgeons met each other rather frequently. In conspicuous, dangerous cases, often more than one surgeon was involved, as can be illustrated with Scellinck's adventure at Gembloux. The learned master usually got the star part, at the disadvantage of the other surgeons.

When the educated and the empiric surgeons met in a more relaxed, more neutral setting, their relationship appears to have been quite equal. Scellinck once described a likely conversation between himself and the lay surgeons. 'I have repeatedly asked the simple and uneducated surgeons,' he said, 'who know neither reason nor sense, why they dress every wound with their poultices, without any eye for the state or phase of the wound. They tell me that they do not know of any better medicine than poultice, as they ripen the wounds, and soften the pain, and "comfortate" and "mondificate" and "consolidate"'. That is an overt, evil, false lie.'²³ Scellinck defended his harsh verdict on his knowledge of the authorities. 'The wise masters from the past did not advocate anything else than drying the wounds by washing them. One should "mondificate" the wounds dryly, as Galen stated that good flesh

²³ Scellinck 8 'Daeromme die naecte ende onghelerde surginen die geen reden en hebben noch en verstant legghen alle weghe haer pappen sonder besceet op die wonden alsoe wel ten lesten als te jersten welke quaet es waerom si dat doen hebbe ic dicwil ghevraecht ende si antwoerden mi dat si gheen beter medecine en vonden dan pappen want si riipen die wonden ende doen versachten die sweere ende conforteren ende mondifeeren ende consolideren ende doen die wonde vullen met goeden vleesche ende si en deeren in gheen en dinghen. Dat openbaere quade valsche loghen es...'

was only generated in well “mondificated” and purified wounds.²⁴ The discussion seems to fit in the controversy about dry or wet wound healing, which will not be touched upon here – I will only focus on the alleged difference between learned and lay surgeons. The uneducated surgeons did not at all appear impressed by the learning of their educated colleague. In fact, they answered him with much self-confidence. Perhaps even more interesting, they used the exact same terminology as he did. Just their opinions diverged, not their styles of speaking. It seems highly possible that bystanders following this conversation did not see the difference between the so-called educated and lay surgeon.²⁵

A long drawn-out conflict between educated and uneducated surgeons was the possibility of curing head wounds, when the brain was visible. Yperman repeated Galen’s opinion on this matter. When the brain poured out of the skull, through the head wound, the patient would certainly die. Haly Abbas warned in his venerable work *Pantegni*, known in the Western world through its translation by Constantine the African, that many idiots prided themselves on the cure of head wounds with the brain pouring out. Now that was false and unjust.²⁶ Scellinck too mentioned the *Pantegni* in a similar passage about lay masters’ lies.²⁷

²⁴ Scellinck 8 ‘want der vroeder meesters ghedochten en es anders niet danmen die wonden doet droeghen met medecinen die vlees doen wassen in die wonden. Ende eest dat sake dat men wille dat vleesch [doen wassen in die wonde dan salmen die wonde] droghe mondijficieren want alsoe galienus seit goet vleesch in die wonden en mach niet werden ghegenereert si en werden wel ghemondficeert ende gesuvert...’.

²⁵ This finding is in accordance with McVaugh’s conclusion, based on archival research: ‘A closer look (...) reveals that there were structures promoting intellectual if not professional unity among all types of practitioners, allowing the new learning to spread within and among every level of practice. Down through the 1340s, medical practitioners were in continual association and interactive discourse, of a sort that inevitably yielded a common scientific culture in which all shared.’ McVaugh (1993) 108.

²⁶ Yperman 11 ‘Ende galieen orcont int comment vanden anphorisme. Dats .1. boec van medecinen die alsoe heet. Dat hi oec sach den menegen die pia mater hadden gewont met cleinder wonden die oec genasen. Ende dat bediedt hi nerenstelike alse hi seit. alse die wonde comt ten herssenen dat si uut lopen. sonder twivel dan stervet die mensce ende dat vynt men in plantegine In den anderen boec bescreven ende seyt dat hem vele zotten beroemen dat sij hebben ghenesen dye de hersenen ute liepen ende vulden dye stede met cottoene twelcke dat valsch was ende onrechtverdich Deo gracias’. The *pia mater* is the soft cerebral membrane.

²⁷ Scellinck 25 ‘Ende men leest in pantegni constantini inden anderen tractaet als merch vanden hersenen es ghequest dat es occusoen vander doot. Daerom ist quaet ende valsch dat deese [quaede] ongheleerde sotten hem beroemen te segghen ende te clappen

The theme remained current in Yperman's and Scellinck's days. Scellinck described how he once had dined in the Brabant town of Diest. Master Roeliin of Sint-Truiden was one of the guests, a lay master, bare of learning. He prided himself of having cured a patient with a part of his brain, as large as the yellow of an egg, slipped out of his skull.²⁸ Scellinck had also met a female surgeon, Dame Juliana. She boasted about a successful cure of a man, whose brains had completely left his skull. The surgeonness had washed the brain in wine in a silver dish, and had put them back in the skull. The man had lived for many years.²⁹

Sourly, Scellinck commented on the two stories in his handbook. His writing does not convey the impression, however, that he gave them a proper dressing-down on the spot. The learned surgeon stated that it must have been pus, which poured out of the wound. The lay idiots did not know the difference between pus and brains, as both were soft and white. Neither did the bystanders. They were very impressed, and valued these lay surgeons as being highly skilled. But it was an outright lie. The learned surgeon told us, his privileged readers, the truth. Many times, Scellinck knew, *putredo* or pus flowed from the upper to the lower brain cavity. Natural heat transformed the pus. Then came miraculous, noble Nature in play, and threw all the pus out through the wound. That was the soft and white material identified as brain tissue by both lay surgeons and lay people.³⁰ Yperman too mentioned lay

dat si ghenesen hebben niet alleene duere mater mer piamater ghequets ende doergaet. Maer dat noch meer es si segghen dat si enighe cameren ghedeelt hebben van den breijne ende hebbense weder in gheleit ende ghevult ende ghenesen dwelke grotellic gheloghen es'.

²⁸ Scellinck 25 'Ende ic was te diest in brabant daer een leeck meester was ende nacht van clergien ende hi was gheheeten meester roeliin van sintruden ende beroemde hem daer wi saten met veel edelder mannen ter tafele ende aten dat hi ghenas enen man die die hersen waren uijt ghescoten alsoe groot als enen doren van enen eye ende hi en seide niet waer...'

²⁹ Scellinck 24-25 'Te namen was oeck een meesterse ende hiet dame juliane ende haer dochter dameseele maghiin ende beroemde haer van enen man die die hersenen al uuijt ghescoten waren ende si namen die hersenen ende leidese in een silveren scale ende wiesense in warmen wiin ende leidense weder int hooft ende die man ghenas ende leefde daernaer menich jaer'.

³⁰ Scellinck 26 'Ende ic segge dat sommighe tiit putredo van boven tot onder thersenbecken loopt ende metter werke der natuerliker hitten wert putredo ghedigereert ende daerna coemt die wonderlike edele natuere ende werpt dat uuijt doer die wonde. Ende dan wanen die sotten ongheleerde surginen die niet en weten wat dat es ende segghen dat die hersenen siin ende ander leeke lieden die dat sien wanen dat die sotten ongheleerde surginen waer segghen. Maer si liegen openbaerliic'.

masters who spread lies about the cure of brains, while they had merely seen 'hard humours'.³¹

Which rhetoric would have worked best on the medieval market place? Stories about dangerous injuries with brain parts involved, where brain was removed, washed, and restored, or stories about pus, cavities, natural heat, and a miraculous Nature solving it all? I am afraid that the spectacular brain story might have won. No wonder the theme was recurring in the surgical handbooks. It must have been a gnawing question: should I remain loyal to Galen, and to Haly, and to all my learning, or should I start telling stories about brains instead of pus?

Words and actions

When Yperman and Scellinck became more specific about the differences between themselves and the lay masters, they usually pointed at the lack of variation in the ignorant masters' repertoire. Books had taught the learned masters many different remedies. The Flemish surgeons also possessed the knowledge to make well-grounded choices between all these treatments: they based themselves on the endless variations in human complexions and ailments. The typical lay surgeon could do nothing of the kind, according to the descriptions of the learned masters.

Yperman knew of a master Anselmo of Genoa, who used one and the same ointment on every wound, whether he was right or wrong – very lay indeed.³² Master Anselmo advised his wounded patients to eat nothing but the best meat, and to drink the strongest wine they could find.³³ Yperman roared that this was against all the advice of all the

³¹ Yperman 9 'Ende gevalt dattie mensce wert gewont int hoeft so dat therssenbecken brecht. Ende dura mater wert gewont of geapostemert waerbi datter herde humoren uut comen. Enden dan wanen enege leeke meesters dat herssenen siin. neent niet. Ende dus siin si bedrogen ende doen den lieden ende henzelve logene te verstane. Want die herssenen en mogen niet siin gewont. Entie zieke daer af genesen. Want het es .i. led principael'.

³² Yperman 166 'Meester anceel van geneven die genas alle siin hoofwonden met ere zalven sonder anijs. Ende hij wasser sere met geprijst in die stede van geneven. (...) Met deser zalven waest dat meester anceel wrochte hadde hi recht of onrecht. hi nam altoes wit harst'.

³³ Yperman 166 'Hi verboet allen sinen zieken dat si el niet en souden drinken dan vanden starcsten wine dien si vonden. ende dat si niet el en aten dan dbeste vleesch.

learned authors. He himself faithfully followed their line, and prescribed his own wounded patients a diet of, amongst other foodstuffs, sour apples, meat from small fishes or small birds, pea mash, almond milk, and just a little bit of watery wine.³⁴ Of course, it was quite learned, but was it attractive to his patients? They may have liked master Anselmo's diet much better, as well as the safe, soothing salves and cabbage leaves. The same seems true for a female master, Lise Pauwels, who treated all her wounds with a potion, a bandage, and red cabbage leaves,³⁵ instead of the scary and painful treatment of suturing, which Yperman and Scellinck sometimes opted for. Master Willem of Zierikzee washed every wound in wine, without ever suturing it.³⁶ Scellinck stated that people should distrust such practitioners: 'Thus, all surgeons who dare to treat every wound with just one ointment, they lie and go astray...'.³⁷

But did people distrust healers using just one remedy for wounds? From Yperman's words, the opposite can be deduced. Although more of master Anselmo's patients died than survived,³⁸ he was highly praised by the citizens of Genoa, higher than the other masters working by the art. Yperman hastened to add that the praise only came from the ordinary, lay people, not from those who knew better,³⁹ but that seems a scant comfort. Again, the people deemed Lise Pauwels a better healer than many good and skilful masters. It did not matter that many of her

Ende dit was iegen alle auctoors van medicinen ende van surgiën. Also gi horen moget int capittel vanden dyeten'.

³⁴ Yperman 56-57.

³⁵ Yperman 167 'Het was oec in poperingen een wijf ende hiet lise pauwelijns die genas alle die wonden met dranken. ende leide optie wonde .1. luttel stoppen. ende daer boven rode coolbladre'.

³⁶ Yperman 167 'Het was oec een meester in Vlaendren van ziericzee in zeelant geboren ende hiet meester willem. (...) Ende genas aldus alle sine wonden. Ende hine nayde gene wonden mer hi dwouchse met warmen wine ende drogese ende daerna leide hi daerop siin plaester also ic u vorseit hebbe. Ende wasser zere met vernaemt. Dits al geluc sonder redene'.

³⁷ Scellinck 248 'Daerom alle surgijenen die hem vermeten alle wonden te ghenesen met eenre salven sij lieghen ende dolen om die redene die ghi gehoert hebt'.

³⁸ Yperman 167 'Entie daer storven die grouf men. Ende het starfer meer dan genas'.

³⁹ Yperman 166 'Meester aneel van geneven die genas alle siin hooftwonden met ere zalven sonder anijs. Ende hij wasser sere met geprijst in die stede van geneven. (...) Met deser zalven waest dat meester aneel wrochte hadde hi recht of onrecht. hi nam altoes wit harst (...) Nochtan was hi vele meer geprijst dan alle dandere meesters die bi der const wrochten. Maer dat en was niet van den genen die redene bekenden. maer hi was vanden gemeinen leken lieden'.

patients died, too.⁴⁰ And master Willem became quite famous with his washing of wounds; all luck without reason.⁴¹ After Yperman had finished his report about the dullness of these competitors and their unfair rewards, Yperman drew a bitter conclusion. 'And so we can learn: it is better to sell your service well, than to render good services.'⁴² He warned his children that being a learned surgeon might not be very lucrative – it might even fail to raise your professional prestige. 'If you,' Yperman told the reader, 'happen to be a surgeon who is not elevated, do not bother too much. And this great name they get is just luck without right or reason.'⁴³

Apparently, the simple and predictable remedies of Anselmo, Lise, and Willem were much sought-after by patients. It may have been quite comforting for wounded persons to call for a predictable practitioner: to be certain that the healer would only apply the soothing remedy one expected. On the contrary, calling for a learned surgeon may have added a lot of anxiety to the already troubled mind of the patient with wounds. A learned practitioner could choose between so many and such diverse treatments, that one never knew what scary, painful, or otherwise threatening remedy he would come up with.

Conclusion

The question this research started with, was: which value did book-learning and formal education offer to non-academic late medieval surgeons? After an evaluation of the themes of rhetoric and competition in Yperman's and Scellinck's handbook, modest conclusions can be drawn. Book-learning and formal education could be a handicap. The conscious learned surgeon suffered from barriers unknown to an uneducated practitioner.

Learned surgeons had to dismiss spectacular, highly promotional explanations in favour of quite common, shady reasons. They had to advocate unattractive diets, and they sometimes took recourse to painful and scary remedies. On the other hand, the immediate benefit of

⁴⁰ Yperman 167 'Vele genasser ende vele storvender. Ende nochtan wassi geprijst boven goede constege meesteren'.

⁴¹ Yperman 167 'Ende wasser zere met vernaemt. Dits al geluc sonder redene'.

⁴² Yperman 167 'Ende aldus so es beter goede vente dan goede ware'.

⁴³ Yperman 167 'Waerbi dat ic u segge. Al siedi enen meester die niet en wert verheven. en laet u niet verwondren daer af. Mer van desen namen die si gecrigen. dat mach wel heten geluc sonder recht ende sonder redene'.

book-learning and formal education seems to have been rather small. Non-academic, yet learned surgeons appear to have encountered serious difficulties in truly differentiating themselves from the lay surgeons. Empirics used the same learned terms, and they were just as self-confident in their rhetoric and advertisement. While university degrees were quite well protected in the Middle Ages, learned surgeons in the vernacular had not been to university. They prided themselves on a less well described education, and their position in doing so was weak. Finally, the results of learned surgeons will not have been conspicuously better than those of the cabbage-leave practitioners. Patients of learned surgeons died too.

The gap between the learned and the lay practitioners was not as wide as Yperman and Scellinck would have liked it to be, and the value of book-learning and formal education was not as high as they tried to present it. In their uncertain times, rhetoric and reputation made the surgeon's world go round. For non-academic surgeons, these two were only moderately influenced by learning and books, and, strange as it may seem, both for the worse and for the better.

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Andrés Piquer and the Neo-Hippocratic Teaching of Medicine in Eighteenth Century Spain

Jesús Angel y Espinós¹

Summary

Eighteenth century Spain witnessed a revaluation of the Hippocratic works as a result of the growing criticism of the Galenism dominant in the Spanish University of the time. Probably the most important author in this reformist trend was Andrés Piquer y Arrufat (1711-1772), eclectic philosopher, university professor and doctor to the Kings Fernando VI and Carlos III.

His desire to transform medical university instruction following Hippocrates' rules led him to make some of the first Hippocratic treatises from ancient Greek to Spanish, for the first time. Among these treatises, the translation and commentary of *Epidemics* 1 and 3, and partially of *Epidemics* 2, are especially noteworthy. This medical and philological work relates not only to Hippocrates but also to the medical concepts of Thomas Sydenham, the English Hippocrates. The Clinical Histories and descriptions of *katastases* in his *Observationes medicae* (London, 1676) exerted a great influence not only on A. Piquer but also on many Spanish doctors. Moreover, the works of Herman Boerhaave and especially of his pupil Gerhard van Swieten left their imprint on the ideas of the Spanish doctor.

Besides his translations, A. Piquer wrote many treatises based on Hippocratic teaching for university students, in Latin as well as in Spanish. His *Praxis Medica* was translated into Portuguese and his *Tratado de las calenturas* (*About the fevers*) into French.

Nowadays, historians generally agree that the seventeenth century was a period of political and economic decline for the Spanish Empire, especially in its second half. As the sickly and handicapped Charles II,

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the last king of the House of Habsburg, neared death without producing an heir, the European monarchies started intriguing to control the Spanish realms, plotting in the Spanish Court to obtain the inheritance of the throne. In accord with what Charles II stated in his will when he died in November 1700, the Duke of Anjou, grandson of French King Louis XIV, was elected as his successor and became Philip V, the first Bourbon to occupy the Spanish throne. Austria, Holland and England refused to recognize Philip V and signed a Treaty of Alliance in 1701. The War of Spanish Succession broke out when the allied armies invaded Spain in order to drive out the Bourbon king and to establish the Archduke Charles, the Austrian pretender to the throne. The Treaty of Utrecht (1713) marked the end of the hostilities. Under the treaty, Philip would be crowned king. Spain paid the price of its defeat in dominions; Spain lost all its European possessions and gave Britain Gibraltar and special privileges in trade with America.

The reign of Philip V (1700-1746)² ushered in the Spain of the Enlightenment a period of harmonious foreign relations, reforms and interior development. Due to the collaboration of France, Spain won back Naples and Sicily. His son, Ferdinand VI (1746-1759), was concerned with the domestic recovery of the country rather than the extension of its power in Europe. He defended a policy of neutrality and he urged the construction of a powerful fleet to protect Spanish interests in America. As Ferdinand VI died without an heir, his successor was his half-brother Charles III (1759-1788), who had already been king of Naples. Charles III turned his attention to internal problems, launching a programme of far-reaching economic, cultural and religious reforms. He introduced the very latest in urban reform ideas from his native Naples. This was the time when Madrid was transformed into a modern city. Although there were riots in Madrid and other provinces against the programme's implementation, the nation's intellectuals were receptive to the ideas of the Enlightenment and the *Encyclopaedia* of Diderot and d'Alembert. Charles III died in 1788, a year before the outbreak of the French Revolution. His son, Charles IV (1788-1808), was a weak man, who was not able to carry through the reforms begun by his father.

There is no doubt that the first Bourbons aimed at improving social conditions in Spain, after the moral and political stagnation of the last kings of the House of Habsburg, a period of crisis which nevertheless

² In 1724 Philip V abdicated in favour of his son Louis I, who died a few months later in the same year. Because of this misfortune, Philip V occupied the throne again.

was witness to a cultural Renaissance. In eighteenth century Spain, cultural and scientific associations were created all over the country such as, for example, the Royal Colleges of Surgery in Cadiz (1748), Barcelona (1760) and Madrid (1780).³ Foreign scientists were brought to the country and, at the expense of the Crown or with grants of official institutions, many Spaniards were sent to study abroad. This was the period when Spanish students of medicine came into contact with the teachings of Friedrich Hoffmann (1660-1742), Herman Boerhaave (1668-1738) and Gerhard van Swieten (1700-1772), disciple of the latter, for the first time and when university professors decided to turn back to Hippocrates and away from a reactionary Galenism, which was already distorted by Scholastic philosophy and the Catholic religion. The University of Valencia was the main centre of the movement against Galen and Aristotle. Andrés Piquer studied medicine and taught at this University until 1751, when the Royal Court of Ferdinand VI appointed him as one of the king's private doctors. After Charles III succeeded Ferdinand VI, Andrés Piquer continued to hold this office until 1772, the year of his death.⁴

Unfortunately, in the end, this social and scientific development collapsed. Crucial among the factors responsible for the sudden decline were the French Revolution, whose horrors produced a conservative reaction in the Spanish nobility, crown and society, and the French invasion and the subsequent War of Independence against Napoleon's army (1808-1814), which had the effect of squandering all the years and money invested. Moreover, an important factor in the failure of the Spanish Enlightenment was the impatience of the governments, which considered progresses too slow, and also their naïve trust in scientific education as a remedy for all problems.⁵

To summarize, it was in this period of lights and shadows, of forward-looking reforms and deep-rooted traditions, when Andrés Piquer y Arrufat (Fórnoles, province of Teruel, 1711 – Madrid, 1772) lived and wrote his medical and philosophical works. Andrés Piquer belongs to the long tradition of Spanish humanistic doctors like, for example, the Andalusian Ibn al-Rushd (Averroes, † 1198), physician who gained his primary reputation as commentator of Aristotle, Gómez

³ On the Royal Colleges of Surgery and their role in the society of the time see Granjel (1979) 69-72.

⁴ With regard to the biography and the works of Andrés Piquer see Mindán Manero (1991), probably the best book about the Spanish doctor and philosopher. See also Sanvisens Marfull (1953), Guy (1983) 152-161 and Abellán (1988) 449-461.

⁵ See Holub (1976) and Perdiguerro (1992) 160-162.

Pereira (*ca.* 1500-*ca.* 1558), who was doctor of Prince Charles, the insane son of Philip II, and is considered to be the forerunner of Descartes due to his theories about the animal automatism, Miguel Servet (*ca.* 1511-1553), who discovered the pulmonary circulation of blood⁶ and was burnt at the stake in Calvin's Geneva because of his heretical theories, and, finally, Santiago Ramón y Cajal (1852-1934), recipient of the Nobel Prize for medicine in 1906 thanks to his research in neurology and the writer of critical essays, etc.

Regards Andrés Piquer, it is known that in 1734, the same year as his graduation from the University of Valencia in medicine,⁷ he obtained a post of second rank as a teacher at this University and, the next year, published his first work, *Medicina vetus et nova*. In 1739 an epidemic outburst broke out in a little village near Valencia and Piquer was ordered to inform the authorities and to write a report about the events. It was probably during the composition of this text that Piquer began to devote his attention to epidemic diseases. It is true to say that the success of this account was the real starting-point of the professional career of Piquer, since he went on to become a prestigious doctor and was appointed professor of anatomy in 1742. He held this chair until 1751, when he accepted the king's invitation to be court doctor. Throughout this period, Piquer devoted himself to the study of mathematics, physics, history and Ancient Greek, and came to espouse iatromechanical arguments, as can be seen in his treatise *About the fevers* (*Tratado de las calenturas*). This work, published in 1751, was the last written while he was professor in Valencia.⁸

In this regard we should point out that Piquer radically changed his way of thinking after his arrival to Madrid, renouncing his former mechanistic ideas and embracing scepticism. It is difficult to identify the reasons for this evolution, but one might be tempted to suggest that he probably began to doubt his own convictions when his wife died in 1750 and he realized that not only the mechanistic but also all the

⁶ In fact, the discoverer of the blood circulatory system was the Egyptian Ibn al-Nafis (*ca.* 1213-1288). However, this great medical finding, which was re-discovered by modern science after a lapse of three centuries, remained unknown until 1924, when an Egyptian student of medicine found the theories of his compatriot in ancient Arabic manuscripts.

⁷ Piquer had previously studied philosophy at the same University (1727-1730).

⁸ This treatise enjoyed an international success thanks to its translation into French, *Traité des fièvres traduit de l'espagnol en français...* (Amsterdam/Montpellier, 1776). A disciple of Andrés Piquer, Narciso Peiri, made a Latin résumé under the title *De febribus ad Tyrones* (Valencia, 1784). See Mindán Manero (1991) 71.

remaining systems were ineffective for understanding human disease and human body. Another factor to consider is the influence of his mentor, Gregorio Mayáns y Siscar, whose philosophy was contrary to any system.⁹ As a consequence, Piquer's first work written in Madrid, *De medicinae experimentalis praestantia* (1752), was a brief tract against the mechanistic system in defence of anti-mechanistic scepticism. These arguments were repeated in the *Speech about the mechanistic system* (*Discurso sobre el sistema del mecanismo*, Madrid 1768).

Apart from these theoretical works about the way of understanding medical science, another feature to take into account is Piquer's great interest in the didactics of medicine. His translation and commentary of some of Hippocratic treatises is probably one of the most important pedagogic works of eighteenth century Spain. As has been noted, after graduating in medicine, Piquer began to study Ancient Greek, for he considered that a doctor had to master not only Latin but also Ancient Greek in order to return to the bases of the Greek medicine, as the unique way of progressing in medicine. Piquer made the first translations from Ancient Greek into Spanish¹⁰ of the Hippocratic *Prognostic* (1757),¹¹ *Epidemics 1* (1761),¹² and *Epidemics 3* and

⁹ A very interesting essay about Gregorio Mayáns y Siscar, his life, works and friendship with Piquer may be found in Peset i Llorca (1975). Gregorio Mayáns y Siscar (1699-1781) was an erudite who was in correspondence with Voltaire, Muratori, etc. He exerted great influence on the thinking of the scientific and literary community of Enlightened Spain.

¹⁰ In 1699 Alonso Manuel Sedeño de Mesa published a translation with commentaries of Hippocrates' *Aphorisms*, whose title announced that it was made from ancient Greek, but it was really question of a paraphrase of the Latin version. See Granjel (1972) 170, López Férez (1983) 237 and especially Martínez Pérez & Santamaría Hernández (2002) 43-78. In the latter book the authors try to find reliable facts about the biography of Sedeño de Mesa, whose life, including the dates of birth and death, remains shrouded in mystery.

¹¹ *Las obras de Hippócrates más selectas con el texto griego y latino puesto en castellano e ilustrado con las observaciones prácticas de los antiguos y modernos para la juventud española que se dedica a la medicina, por el Dr. Andrés Piquer, tomo I*, ed. Joaquín Ibarra, Madrid 1757. (*The greatest works of Hippocrates with the Greek and Latin texts translated into Spanish & illustrated with the practical observations from Ancients and moderns for the Spanish youth dedicated to medicine, by the Dr. Andrés Piquer, first volume*).

¹² *Las obras de Hippócrates más selectas, ilustradas por el Dr. Andrés Piquer, tomo II*, ed. Joaquín Ibarra, Madrid 1761. (*The greatest works of Hippocrates, illustrated by Dr. Andrés Piquer, second volume*).

selected passages of *Epidemics* 2 (1770) and commented the texts.¹³ Piquer thought that *Prognostic*, *Epidemics* 1 and 3 were authentic, and that *Epidemics* 2 was not. As a result, he decided to comment just the fragments he considered of interest to students. Piquer's commentary of *Prognostic* achieved such success that it was translated into French in 1822.¹⁴

In the first volume, Piquer wrote an erudite and full prologue (*Prefación*) whose goal was to acquaint young doctors not only with the texts of Hippocrates, which the students could read in Latin, but also with different features of the Hippocratic legacy. This didactic aim must be related to the Enlightenment programme of the first Bourbon kings. Moreover, at that time there were many social and scientific movements intended to regenerate the overall cultural level of each Spanish region. Nevertheless, the problems of University education were not solved. With this instructive purpose in mind, in the prologue Piquer discusses the question of determining the genuine works of the Greek doctor,¹⁵ compares the writings of Hippocrates and Galen, etc. The text format of the Hippocratic treatises is in two columns. In the first column are the Greek texts, followed by the Latin translation,¹⁶ and in the second one is Piquer's translation. The lower part of each page is devoted to profuse commentaries in which the doctor displays his great scholarship and shows that he is familiar both with the rich tradition of sixteenth century Spain¹⁷ and with contemporary European doctors. As the reader comes to realize, Piquer fulfilled his plan for illustrating the Hippocratic treatises with the practical observations of ancient and modern doctors. Consequently, in Piquer's commentaries the influence of Thomas Sydenham (1624-1689), the famous English doctor, and

¹³ *Las obras de Hipócrates más selectas, ilustradas por el Dr. Andrés Piquer, tomo III*, ed. Joaquín Ibarra, Madrid 1770. (*The greatest works of Hippocrates, illustrated by Dr. Andrés Piquer, third volume*). On these three works and the subsequent editions and reprints see Mindán Manero (1991) 75-80.

¹⁴ *Les Pronostics d'Hippocrate, commentés par A. Piquer, d'après les observations pratiques des auteurs tant anciens que modernes, ouvrage traduit de l'espagnol et augmenté d'une notice biographique, par J.B.P. Laborie*, Montpellier, 1822.

¹⁵ For a discussion of Piquer's attitude towards the Hippocratic question see Ángel y Espinós (2002).

¹⁶ Piquer used for *Prognostic* the Latin translation of Cristóbal de Vega (Lyon 1551) and for *Epidemics* that of John Freind (London 1717). The Greek text of *Prognostic* belongs to the edition of Anuce Foës (Frankfurt 1595) and that of *Epidemics* to John Freind (London 1717).

¹⁷ For the editions, translations and commentaries about Hippocrates written by Spaniards in the sixteenth century see Santander Rodríguez (1971).

Gerhard van Swieten (1700-1772), the founder of the *Alte Wiener Schule*, is notable.¹⁸

Moreover, just as Hippocrates had done earlier, Piquer considered that medicine had to be experimental and based on naked eye observations without the use of barometer or thermometer. Consequently, Piquer judged Hippocrates to be 'the main author of the experimental medicine.'¹⁹ Nevertheless, we cannot mistake Piquer's experimental medicine for our concept of laboratory experimentation. Piquer's image of Hippocrates has to be understood in the context of the habitual procedure of creating a particular Hippocrates, serving the purposes of each period or of each interpreter.²⁰ According to this tendency, Galen's reputation suffered badly by comparison with Hippocrates' status, for the Spanish Galenism, after the period of the great sixteenth century doctors like Cristóbal de Vega (1510-1573) or Francisco Valles (1524-1592),²¹ had been degenerated into obscure and scholastic interpretations. Unfortunately, this dogmatic Galenism, which often had no relation with the great doctor of Pergamum, was the dominant doctrine in the Spanish University when Piquer studied medicine, although important doctors of the time, like the iatrochemical Diego Mateo Zapata (1664-1745) or the sceptic Martín Martínez (1684-1734), disagreed with this way of teaching and understanding medicine. Without any doubt, the Anti-Galenic doctors left their imprint on Piquer, since he even blamed, unjustifiably, Galen for falsifying the Hippocratic theories to his own advantage.²²

In our opinion, the doctrinal background of Piquer's transformation of Hippocrates can be found especially in the medical thought of Thomas Sydenham, whose huge work *Observationes medicae circa morborum acutorum historiam et curationem* (London, 1676)²³ and

¹⁸ On the influence of van Swieten and the *Alte Wiener Schule* on Spanish Enlightened medicine see López Piñero (1973).

¹⁹ See *Prologue (Prefación)* to the first volume, LIX.

²⁰ On the transformation of Hippocrates in Piquer's thought see Ángel y Espinós (in press).

²¹ A remarkable study of the medical Humanism of the sixteenth century at the University of Alcalá de Henares, where both doctors were teachers, may be found in Martín Ferreira (1995).

²² See *Prologue (Prefación)* to the first volume, XXXVII-XLI.

²³ This work is the enlargement of the *Methodus curandi febres, propriis observationibus superstructa* (London 1666, 1668² with an additional chapter on the plague). As Cunningham (2001) 103 points out: 'The title of this work, in both its versions, is significant, for it calls on *observation*, and in particular *one's own*

especially the case-histories it contains, had much to do with Piquer's interest in clinical medicine. Sydenham's fundamental idea of *species morbose* is responsible for some observations of the Spanish doctor. Like the English doctor, Piquer postulated that, in order to draw a complete and graphical picture of a disease, observation had to be based on morbid phenomena we can describe; in other words: the doctor had to give up seeking the remote causes of the disease and philosophizing about its hypothetical constitution. According to Sydenham's tendency towards the characterization and classification of diseases, Piquer asserted the primacy of general observations over individual ones, because the first ones show us the constant and recurrent behaviour of Nature and its creatures.²⁴

As has previously been seen, Piquer began to take an interest in epidemic diseases after his report about the epidemic outbreak of 1739. His main work in this field was the translation, with rich commentaries, of Hippocrates' *Epidemics* 1 and 3, and of some chapters of *Epidemics* 2. The authority of Sydenham's conception of medicine is evident in these translations, since the quotations of the English doctor are found throughout. These translations and commentaries had a double goal: on the one hand, the encouragement of the university students of medicine as a means to regenerate the education in the University, and, on the other, the socially advanced aim of improving the medical craft and extending medical benefits to the whole society, including the poor, especially with regard to diseases they suffered from most – epidemics. This second goal can be directly related to Sydenham's works, since it has been argued that his medical thought had to be explained on the basis of his religious beliefs according to which the doctor had to commit himself to extending the welfare to all the social classes.²⁵ Moreover, Piquer was an excellent writer of case-histories. In his narrations of the fatal pathological processes of Queen María Bárbara and of King Ferdinand VI, the stamp of Sydenham can be appreciated. In the full case-history about the king, Piquer took account of all the details and even remarked that the king did not heed doctor's advices. Remarkable in Piquer's descriptions is the importance of the Hippocratic concept of *katastasis*, revived in the seventeenth century by the Sydenhamian *constitutio epidemica*. Sydenham, and later Piquer,

observation, as the basis of medical improvement.' On the Sydenhamian case-histories see Laín Entralgo (1950) 137-177.

²⁴ See *Prologue (Prefación)* to the first volume, LVI.

²⁵ On this argumentation see Cunningham (2001) 102-104 and Martensen (2001) 121-132.

considered Hippocrates to have been empirical and averse to theory and the founder of a new scientific method based on the accurate and tireless scrutiny of the effects of the environment on both disease and the patient.

In relation to the high standing of Sydenham in Spanish medicine, it is worth noting that one of the doctors who, together with Piquer, took care for the ill King Ferdinand VI was Gaspar Casal (1680-1759), whose posthumous work *Natural and Medical History of the Principality of Asturias* (*Historia Natural y Médica del Principado de Asturias*, Madrid, 1762) is the best example of meteorological medicine in eighteenth century Spain. Thanks to Sydenham's descriptive method and to the fundamental notion of *species morbose*, Gaspar Casal was able to describe pellagra, a disease due to the ingestion of spoiled maize, which causes cracking of the skin and often leads to insanity.²⁶

With respect to Piquer, there is no doubt that the ascendancy of Sydenham was crucial to the research for *Epidemics* 1 and 3, and some chapters of *Epidemics* 2. Nevertheless we should point out that this work, including the translation into vernacular with commentaries of *Prognostic*, has also to be placed in the erudite Spanish Renaissance tradition.²⁷ In the sixteenth century Cristóbal de Vega wrote Latin versions and commentaries on *Prognostic* and *Aphorisms*.²⁸ These works are noticeable in his philological remarks,²⁹ which witness the doctor's profound knowledge of ancient languages. Piquer will use this Latin translation of *Prognostic* in his commentary about this Hippocratic treatise (1757). A contemporary as well as a rival of Cristóbal de Vega was Francisco Valles, known as 'the divine', who wrote translations with commentaries on several Hippocratic treatises among which the works dedicated to *Prognostic*³⁰ and to *Epidemics* are of special interest. His *In libros Hippocratis de morbis popularibus commentaria magnam utriusque medicinae, theoricæ inquam & practicæ, partem continentia* (Madrid, 1577) was the first analysis of all seven books, as he himself observes proudly. Previously only partial studies on separate books had been written by Galen, Leonhard Fuchs

²⁶ Gaspar Casal gave the name of 'the rose illness' ('el mal de la rosa') to pellagra. With respect to Gaspar Casal see Granjel (1979) 31 f. and Peset Reig (2002) 223-228.

²⁷ On Spanish Renaissance medicine see Granjel (1980).

²⁸ *Liber Prognosticorum Hippocratis* (Lyon 1551) and *Commentaria in librum Aphorismorum* (Lyon 1563?).

²⁹ On the style of Cristóbal de Vega see Martín Ferreira (1995) 193-198.

³⁰ *Commentaria in Prognosticum Hippocratis* (Alcalá de Henares 1567).

(1501-1566) or the Spanish Pedro Jaime Esteve (d. 1566).³¹ As an example of the reputation of Valles, we can mention that a collected edition of several works about Hippocrates was published in Paris in 1663 and that there were more than 70 reprints of his books in Europe.

To sum up, Piquer's thought and conception of medicine is a symbiosis of the best Spanish traditions and of the contemporary trends. As a product of the latter we can relate his interest in improving the teaching of medicine, which is reflected in his *Institutiones medicae ad usum Scholae Valentinae* (Madrid, 1762) and his *Praxis Medica ad usum Scholae Valentinae* (Madrid, in two volumes, 1764-1766). Both writings, belonging to the last period of Piquer's creation, were official texts for the students of medicine at the University of Valencia. In both texts as well as in his rewriting of earlier treatises during this period, especially noteworthy is Piquer's disagreement with the systematic theories of Boerhaave about the mechanics of the body, where Piquer even dared to criticize the inconsistency of the reasonings of the Dutch doctor, although he recognized their utility for the students:

*Hunc Auctorem (scil. Boerhaave), qui alia quamplurima scripsit commendatione dignissima, legant Tyrones, & venerentur. Attamen sciant oportet, duo esse in Boerahavii scriptis consideranda, observationes, scilicet, & ratiocinia. Si observationes spectes, nihil exactius: si ratiocinia, more saeculi multum habent pulchritudinis, utilitatis parum; negari enim nequit, quin plurima Boerahavii themata, aut incerta sint, aut non sat firmis fundamentis statuta.*³²

Furthermore, it must be pointed out that the doctrine of Boerhaave was always received with criticism in Spain because anti-systematic

³¹ Francisco Valles writes the following to King Philip II in the beginning of the dedication of his commentary:

..., scribere decrevi, ea praecipue causa, quod nullius neque veterum neque recentium, extant, aut (quod equidem sciam) extiterint unquam integra commentaria. Galeni enim extant adhuc in primum, tertium & sexti partem: scripsit vero, ut eiusdem constat testimonio, etiam in secundum: recentiores in minora frustra secant. Leonhartus Fuchsius scripsit in sextum. Petrus Iacobus Esteve in secundum. Quartum, quintum & septimum nullus attigit, ac proinde a plerisque (iniuria ut censeo) habentur despecti ii, quasi alieni & spurii. [apud Martín Ferreira (1995) 60 note 44].

³² *Medicina vetus, et nova postremis curis retractata, & aucta ad usum Scholae Valentinae*, Madrid 1768, fourth edition, XLI. In the third edition (Madrid 1758), Piquer included a Prologue, reprinted in the fourth, which contained an introduction to the history of medicine according to his eclectic conception of this science. Moreover, in the fourth edition and following the doctrines of his *Institutiones medicae*..., he eliminated all the references to mechanistic theories.

movements were deeply rooted in the country. Hence, it would be better to speak about the influence of Boerhaave as explained and illustrated by van Swieten, his main pupil, whom Piquer considered as the prototype of a good doctor:

GERARDUS VANSWIETENIUS, BOERAHAVII per plures annos Auditor, commentarios edidit in ejus Aphorismos de cognoscendis, & curandis morbis, vera Medicinae sapientia refertos. In iis invenient Tyrones quidquid solidum, & utile ab antiquitate circa morborum indolem, & curationem, dictum, interimque novas nostrorum saeculorum observationes longo usu probatas in usum practicum, & veterum illustrationem adducit. Ea omnia complectitur stilo puro, gravi, perspicuo, adeo, ut ejus lectio utilis Tyronibus esse possit. Piquer, *Medicina vetus, et nova postremis curis retractata, & aucta ad usum Scholae Valentinae*, Madrid 1768, fourth edition, XLII.

On the other hand, Piquer had a crucial bearing on the development of clinical medicine in Spain, particularly in Valencia at the University where he taught. The increasing importance of clinical medicine is evident in the reform of the Programme of medicine at the University of Valencia in 1786, 14 years after Piquer's death.³³ His influence can be seen in the introduction of teachings of the *Alte Wiener Schule*, like, for example, the works of Maximilian Stoll (1742-1787) based on the daily observation at the bedside of the patients related with the meteorological phenomena. According to this conception of medicine, the hospital became the place to teach and subsequently it opened its doors to students. Thus, many hospitals improved their installations and equipment, and the doctor began to play the main role in the direction of the hospital to the detriment of Church power, which still controlled and managed many of these institutions. Every teacher was in charge of a hospital ward with 20 patients and chose one or two students to look after a patient and to write his case-history. The teacher also appointed two students to keep statistics on the hospital's discharged and dead and to report on dissections and weather conditions. All this material was collected, reviewed and filed.³⁴

³³ About this reform see Peset Reig (1973).

³⁴ On the significance of the clinical medicine in Valencia see López Piñero (1973) 202-209, and Peset Reig (1973) 245-247 and (2002) 231-234. The origins of these studies at the University of Valencia can be found in Luis Collado (ca. 1520-1589), who wrote interesting works on pathology, therapeutic and clinical medicine, was an experienced anatomist and held the chair of practical medicine created at his request with the main

On balance, we have to conclude that Piquer epitomized a period of changes and progress, which collapsed abruptly because of many factors. His Hippocratic conception of medicine tried to combine the ancient tradition with the contemporary European medical trends, which were within the reach of Spanish scientists thanks to the policy of the time, open to new ideas from abroad. From the medical point of view, Piquer exerted a great influence on the generations of doctors that followed, as was to be expected because many books were the official texts at several Universities, especially in Valencia. Nevertheless, it must be stated that Piquer did not found a school, probably due to his anti-systematic and eclectic vision of medicine, which was opposed to a rigid and closed corpus of teachings. However, he had some success abroad since several works were reprinted in Europe, like his *Praxis Medica* (Amsterdam, 1775, and Venice, 1776), or were translated from Spanish into French, like his *Traité des fièvres* (*Tratado de las calenturas*) and his commentary to *Prognostic*, or from Latin into Portuguese, like his *Praxis Medica*.³⁵

Finally, let us conclude by saying that, in our opinion, it is very important to observe that Piquer's work would have been inconceivable and almost impossible to do in the Spain of the latter days of the House of Habsburg and in that of later Bourbon monarchs, who once again isolated Spain from contemporary European scientific currents.

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goal of teaching students how to heal patients. See Granjel (1980) 28, 47 f. and 156-158, and López Piñero (1987) 12 f.

³⁵ For information about the dates of the Spanish editions as well as for the foreign editions and translations see Mindán Manero (1991) 58-97.

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Tradition as the Genealogy of Truth Hippocrates and Boerhaave between assimilation, variation and deviation*

Roberto Lo Presti

Toutes les sciences ont leur chimère, après laquelle elles courent, sans
la pouvoir attraper; mais elles attrapent en chemin d'autres
connoissances fort utiles.

Bernard le Bovier de Fontenelle, *Dialogues des morts: Entre Artemise
et Raimond Lulle*

Summary

It is a matter of fact that rarely in the history of modern medicine has a physician gained such immediate and universal fame, and rarely has his contribution to medical knowledge and teaching been so promptly and almost unanimously recognized as a fundamental and, so to speak, a foundational one, as in the case of Boerhaave. In fact, the contribution he gave to provide medicine with a 'scientific' framework, and medical teaching with solid methodological bases, proved decisive. Otherwise, his appraisal of the Ancients (and especially of Hippocrates) and his will to refer to Hippocrates as a model for medical teaching were proverbial. Taking the corpus of his orations as a point of reference, I will thus try to elucidate 1) Boerhaave's main focus and theoretical goals; 2) the argumentative and methodological strategies he adopted in order to achieve them; 3) the position that the key-concept of 'tradition', the figure of Hippocrates, and the notion of 'Hippocratism' hold within these strategies.

Introduction

It is a matter of fact that rarely in the history of modern medicine has a physician gained such immediate and universal fame, and rarely has his contribution to medical knowledge been so promptly and almost

unanimously recognized as a fundamental and, so to speak, a *foundational* one, as in the case of Boerhaave. It suffices to recall the emphatic exclamation with which Albert Schultens praised the death of his intimate friend in Boerhaave's funeral oration: *Non finitus est Boerhaavius noster, neque unquam finietur*,¹ the words with which Haller, who was the most famous and certainly the most gifted of Boerhaave's pupils, set forth that 'perhaps coming ages will bring forth someone equal to him in view of genius and erudition, but hardly of such character',² or, in even more recent times, the opinion of an influential historian like Guthrie, according to whom Boerhaave was 'the *greatest* physician and medical teacher of his time'.³ In fact, scholarly portraits of Boerhaave never fail to refer to these two aspects of his personality.⁴ On the one hand, we know that his activity as a practitioner was untiring, which has led a scholar like Dankmeijer to remark that 'in his time Boerhaave stood as a solitary figure, solitary because he was one of the very few who took the study and treatment of the sick as his main objective'.⁵ On the other hand, it is well known that Boerhaave's ability to teach attracted a number of students from the most diverse countries to the already renown Medical Faculty of the University of Leiden and soon became proverbial enough to win him the appellation of *Europae communis praeceptor*.⁶ This zealous ability,

¹ Schultens (1738).

² See Haller, *Bibliotheca Anatomica* I, 756: *Ingenio et eruditione parem forte saecula reddent, parem animum rediturum despero*.

³ Guthrie (1945).

⁴ See, for instance, King (1965) 3: 'In the first half of the eighteenth century Herman Boerhaave was unquestionably Europe's greatest physician [...] He was, to be sure, an outstanding clinician and teacher...'

⁵ Dankmeijer (1970) 19. On the importance of Boerhaave's figure as clinician see also Fischer (1939), Lindeboom (1968) 283-305, Novak (1971), Powers (2001) 4 ff.

⁶ Lindeboom (1970b) 36, affirms that 'Indeed, Boerhaave was first of all a teacher'. See also Lindeboom (1968) 362-373, Vriend-Vermeer (1963). It is not a matter of surprise, therefore, that the appellation of *Europae communis praeceptor*, first given to Boerhaave by Haller (cf. Lindeboom (1968, 355), has been used by modern scholars as well. In fact, the use made of this appellation has been so massive and indiscriminate as to change it into a commonplace of scholarship as well as into a sort of label distinctive of Boerhaave and accepted (often uncritically) by the majority: see, by way of example, Wiersinga (2002). The work of reference on the spread and influence of Boerhaave's teaching, however, remains Underwood (1977) (at least as concerns English-speaking students), but see also Heller (1984) for detailed biographical information on his Swiss students (among those one must count Albrecht von Haller). Otherwise, one cannot fail to notice that the University of Leiden and especially its Medical Faculty had had a well established reputation for a long time before Boerhaave started his teaching activity (see Dankmeijer 1970; Beukers 1987-1988), and also that the intellectual life of Leiden was

grounded in the wideness and firmness of his knowledge⁷ and in his consciousness of the importance of combining theory and practice in acquiring medical skills, effectively resulted in the attempt to restructure and *modernize* the *curriculum studiorum* of the Medical Faculty. Moreover, this ability is testified to by the innumerable translations of his two textbooks – the *Institutes of Medicine* (1708) and the *Aphorisms Concerning the Knowledge and Cure of Diseases* – and by the unstoppable spread of (often unauthorized) students' accounts of his lectures⁸ as well as of in-depth commentaries on his technical and 'institutional' works (van Swieten's commentary on Boerhaave's *Aphorismi de cognoscendis morbis* – actually, a masterpiece of the eighteenth century medical literature – stands out significantly in this specific production).⁹

Actually, hazardous though it may appear, I find it necessary to focus on such an outstanding and celebrated figure in the panorama of the history of modern medicine, and to attempt to shed new light on some aspects of the epistemological framework within which Boerhaave's medical thought and method belong. This may appear hazardous or perhaps even pretentious if one thinks of the immense

at that time one of the most lively in Europe. Evidence of that is, for instance, the intense book trade between the Netherlands and England that had Leiden as its centre (see Hoftijzer 1983). On Leiden's intellectual climate at the time of Boerhaave see also Sassen (1970) and Powers (2001) 20-67 and 89-98, where special attention is paid to the dynamics of power inside the Leiden Academic environment, those dynamics which finally smoothed the way for Boerhaave to get a position at the University.

⁷ As is well known (partly thanks to the *Commentariolus*, a sort of autobiographical account that Boerhaave wrote not long before dying and that his friend Albert Schultens found after Boerhaave's death), Boerhaave studied theology and took a degree in philosophy. Furthermore, he studied chemistry, mathematics, botany and medicine, and received his medical degree in 1693. Cf. King (1965) 3.

⁸ For a list of Boerhaave's *opera spuria* see Burton (1743) 225-226 (*Appendix*); cf. also Lindeboom (1974b) 14, Powers (2001) 2.

⁹ Gerard van Swieten's commentary was first published in five volumes in Leiden (1741-1772) and had an immense success and therefore encouraged a number of re-editions and translations into the principal European languages, including the French translation by Moublet and the English translation which was published in 1773. For a critical account of van Swieten's commentary see Fritz (1928). As important as van Swieten's commentary are Haller's *Praelectiones* on Boerhaave's *Institutiones medicae* (6 tomes in 7 volumes), first published in Gottingae in 1739-1744. Other commentaries on Boerhaave's works are, for instance, those of Heyman (*Commentaria in Hermannii Boerhaave Institutiones medicas*, published in 1744) and Marherr (Ph. A. Marherr. *Praelectiones in Hermannii Boerhaave Institutiones medicas*, published in Vienna and Leipzig in 1772). For an exhaustive list of commentaries on Boerhaave's works see Lindeboom (1959) 37-40, 47-54.

research about Boerhaave as well as the incredibly high number of accounts of his life and work that have been given for centuries.¹⁰ In other respects, it is precisely because of his appeal and exceptional popularity that the figure of Boerhaave deserves to be further investigated and dispassionately analyzed, since we run the risk of having ‘familiarity with the icon rather than the person’, as Harold Cook argued sometime ago.¹¹

Iconographia Boerhaavii: The Dutch physician among the Ancients

When speaking of Boerhaave we should not fail to consider that an actual *Iconographia Boerhaavii* – made of portraits, drawings,

¹⁰ The long series of biographies that have Boerhaave’s life and work as their subject matter no doubt starts with Schultens’s funeral oration, which also provided a model of reference followed by almost all later biographers of Boerhaave. The very first account of Boerhaave’s work, however, is to be considered the corpus of autobiographical notes (which will be called *Commentariolus*, see above, note 7, and below note 13), in fact, the source of information with reference to which Schultens shaped his oration. Subsequently, a portrait of Boerhaave was published by Samuel Johnson in *The Gentleman’s Magazine* in 1739 (in fact, this was the second biography provided by Johnson for the *The Gentleman’s Magazine*, after the ‘*Life of Father Paul*’: see Carlson 1938, 128), and in 1743 William Burton published his ‘*An account of the life and writings of Herman Boerhaave*’ (see below, note 13). Both these works largely depend on Schultens’s oration, from which they took both information and the overall tone of exposition. There is also a French tradition of biographies of Boerhaave: we have the biography provided by La Mettrie in the second volume of his French translation of Boerhaave’s *Institutiones* (1740); Fontenelle in turn published his *Éloge de M. Boerhaave* in 1742 (but he presented it to the French Royal Academy in 1738), while in 1747 Matthieu Maty published an interesting work entitled *Essai sur le caractère du grand médecin ou éloge critique de M. Boerhaave*. Both Fontenelle’s *éloge* and the introductory chapter of Maty’s account (with a discussion of the aims and structure of the biographical accounts) were translated into English by William Burton in 1749.

¹¹ Cook (2000) 221. There are a number of episodes recounted about Boerhaave’s life – episodes oscillating between reality and fiction – that enable us to gain an insight into the manner in which Boerhaave was iconized. One of these is reported by van Leersum in a speech delivered on the occasion of an official commemoration of Boerhaave and published by Janus in 1918. Van Leersum writes what follows: ‘Madame de Staël raconte dans son livre *De l’Allemagne* que Frédéric II, qui aimait à commander les savants prussiens, comme il avait l’habitude de faire ses grenadiers, prescrivit aux membres de l’Académie des Sciences de s’en tenir à Locke pour la métaphysique, à Thomasius pour l’histoire naturelle et à la méthode de Boerhaave pour la médecine. Ce conseil bref et patriarcal – remarks van Leersum – de la bouche d’un autocrate éclairé, adressé au corps scientifique suprême de l’état prussien, montre mieux que des louanges excessives le renom que ce disciple d’Esculape avait su acquérir’.

engravings and verbal descriptions – established itself when Boerhaave was still alive and immediately after his death, and that this iconography has developed for centuries and has decisively contributed to shaping some recurring features of the official image of Boerhaave, often influencing the reception of his work and the understanding of his contribution to the epistemological history of medicine.¹²

I would like to introduce the main argument of my paper by referring to some examples of this iconographical construction. It is my firm belief that, although we can aim to grasp Boerhaave's place in modern medicine only by scratching the fictitious surface of his personage, a preliminary attentive scrutiny of the icon may be of some use to bring into better focus the issues that are going to be addressed and, ultimately, to demystify genuine and sometimes controversial aspects of Boerhaave's personality which have later crystallized and have often been seen as banal commonplaces of his representation.¹³

Let us consider a first text, taken from Albert Schultens's funeral oration, where Boerhaave is described as follows:

Though his outward appearance was modest, he was of a vigorous and distinguished stature and something great and worthy emanated from his walk, his bearing, and all his movements. In his countenance he bore a great likeness to the *wisest of all the Greeks*, both because the bridge of the nose had sagged slightly and principally because of the innate character of his wit which was gently tempered by mild wisdom. His lively eyes revealed the sagacity of a very keen mind and the constancy of a heart, unused to yielding to the pressure of affairs but accustomed to subjecting them to itself. And this too he had in common *with the greatest of philosophers*, that his countenance and eyes, the mirrors of the soul, neither brightened exceedingly in gladness, nor were obscured by sadness and unpleasantness. Yet the severity of Socrates was more pronounced, whereas Boerhaave's

¹² The importance of studying Boerhaave's iconography in order to have easier access to him as a man and scholar has been demonstrated by Lindeboom (1963) once and for all. Apart from this milestone of modern scholarship on the *Iconographia Boerhaavii* one should also take into account the earlier contributions of Martin (1918) and De Lint (1918).

¹³ This is true all the more so as a number of distinctive traits of this iconography can be traced back directly to the self-representation that Boerhaave himself intended to leave to posterity by writing a corpus of autobiographical notes that were first collected and published by Burton as an appendix to his *An Account of the Life and Writings of Herman Boerhaave* under the title of *Commentariolus de familia, studiis, vitae cursu et propia Boerhaavii manu conscriptis, et post obitum inter eiusdem MSS. repertus* (see above, note 8).

serenity was almost more jovial and this could even drive away the clouds from the countenance of others. Schultens (1738).¹⁴

Schultens praises and emphasizes Boerhaave's wisdom, humaneness and intellectual sagacity by representing him as a sort of *Socrates redivivus*. The parallel between the Dutch physician and the Greek philosopher is not confined to physical appearance but pertains to moral qualities as well, according to an encomiastic pattern which we find exactly reproduced in William Burton's later description of the figure of Boerhaave (Burton, who was one of Boerhaave's pupils, published a biography of his master in 1743 and made massive use of Schultens's oration, which is also explicitly mentioned in Burton's preface):¹⁵

Boerhaave was naturally of a robust frame and healthy constitution, early inured to constant exercise, and the inclemencies of weather, whence he acquired a very uncommon strength of body; no man could have a fairer prospect of longevity; but he, who was temperate in every thing except application, sacrificed to literature in all probability a fourth of his days; yet on this account he may truly be said to have died at seventy, older, than another at an hundred. His stature was rather tall, and his habit corpulent, having always had a great appetite, which he indulged at dinner only [...] He was negligent of dress, and in his gate and deportment there was an honest and somewhat awkward simplicity, but yet accompanied, which is very rarely seen, with a distinguishable dignity. He had a large head, short neck, florid complexion, light brown curled hair, an open countenance, and resembled Socrates in the flatness of his nose, and his natural urbanity. His eyes were small, but very lively, and piercing, the print prefixt bears a near resemblance. A chearful serenity dwelt in his countenance, agreeing in this respect also with the wise Grecian's, that it never seemed much elated by joy, nor depressed by sorrow, an indication of that tranquillity of mind, which is the agreeable attendant and guard of virtue. Burton (1743) 60-62.¹⁶

With respect to these texts Lindeboom has pointed out that 'it is remarkable that both Burton and Schultens refer to Boerhaave's resemblance to Socrates'¹⁷ and that they would surely not have used it, if they themselves had not been convinced of the resemblance. I would like to suggest that this is not the main point: the analogy between Boerhaave and Socrates, which goes far beyond pure resemblance,

¹⁴ On Boerhaave's character see Schoute (1946).

¹⁵ Cf. Lindeboom (1963) 3.

¹⁶ See also p. 57: 'In his youth he was not averse to gaiety; afterwards, that natural turn to the polite kind of irony so much admired by the Ancients in Socrates...'

¹⁷ Lindeboom (1963) 3.

clearly results from a rhetorical construction and, especially in the case of Schultens's oration, is useful to emphasise the two features that listeners must perceive as distinctive of Boerhaave's personality:

- 1) Because of his resemblance to the man who is defined as *the greatest of philosophers* we are induced to think of Boerhaave as the *greatest of physicians*;
- 2) On the other hand, through the parallel between Boerhaave and he who is labelled as *the wisest of all the Greeks* we are encouraged to establish a direct connection between the Dutch physician and *the* Ancient Greek world, as if the intellectual and moral features of the former mirrored and eventually resuscitated the highest and the best intellectual qualities which that world was able to bring forth.

Now, although these texts give a Socratic depiction of him, we know that Boerhaave has also been canonically represented as the 'Dutch Hippocrates', 'Hippocrates Batavus', as we can read in an engraving by Hulett after the picture of Jacobus Goddard.¹⁸ In many respects, this is perfectly logical: if Socrates could be evoked as the greatest of philosophers and eventually the wisest of all the Greeks, Hippocrates was traditionally seen as the greatest of the physicians and embodied that father-like figure to whom medicine could turn when seeking legitimization,¹⁹ and consequently his name could function as a perfect *double* for building up an official iconography of Boerhaave. In order to get an idea of how radical this assimilation could be, let us read a passage of John Barker's *Essay on the Agreement between ancient and modern physicians*, published in London in 1757:

The plan which Hippocrates first laid down was followed by all the rest, and in particular by Boerhaave; and the only difference between is that this plan appears, in some places, to be unfinished and defective, in the writings of the former, but may be seen in its utmost beauty and perfection in the latter. Barker (1757) 230.

¹⁸ But in an engraving by Houbraken Boerhaave is also defined as '*Seculi XVII Aesculapius*' (Cf. De Lint 1918, 360). On Boerhaave as the 'Dutch Hippocrates' see Packard (1938) and Lindeboom (1963). In his translation of Fontenelle's account of Boerhaave's life and work William Burton adds a very interesting note (Fontenelle 1749, 22): 'The word *Institutiones* seems to have been erroneously printed for *Aphorismi* in the original; because this certainly is the work that shews him the *second* or (by his own authority including Sydenham) the *third* Hippocrates'.

¹⁹ Cf. King (2002) 21-36.

Now, it is clear that, beyond the purpose of merely praising the man and his work, there must have been other and deeper reasons for identifying Boerhaave so closely with Hippocrates, reasons that are to be traced both in the field of *history* and in that of *medical epistemology*. In fact, it is not a matter of course that he who was commonly recognized as the propounder of an *original* alliance between theoretical knowledge of the human body and practical medicine, and also as the inventor of the *modern curriculum studiorum* of medical faculties was at the same time praised for following and eventually fulfilling the *ancient* example provided by Hippocrates.

The fact remains that such assimilation eventually proved unavoidable for the very reason that, along with the claim of a 'scientific' and modern approach to medicine, Boerhaave made constant referent to Hippocrates and more generally to the Ancients as an invariant feature of his own doctrine and intellectual activity. So, while never admitting the necessity of rejecting *in toto* the Ancients in favour of the Moderns (or viceversa), Boerhaave 'tried to be a Hippocratic physician all his life',²⁰ and he also accomplished the ambitious project of re-editing the works of Aretaeus from Cappadocia, whom he considered as the 'most Hippocratic' of the ancient medical writers.²¹ We can find a lot of documentary evidence of this attitude of mind in Boerhaave's works: in the oration significantly entitled *De commendando studio Hippocratico*, Boerhaave at some point affirms in a very emphatic way that 'before a physician can be of any real use to the sick, he should have studied Hippocrates's works and his hands should have leafed through them night and day (*haec tamen scrutanda, haec nocturna versanda atque diurna manu*)';²² also, in a passage of the *Oratio in qua repurgatae medicinae facili asseritur simplicitas* he sets forth that

²⁰ Knoeff (2002) 193. It is Boerhaave himself, in his autobiographical notes (quoted both by Schultens 1738 and by Burton 1743, 15), who emphasizes that finding that the writers who came after Hippocrates 'were almost wholly indebted to that prince of physicians for whatever was valuable in them, he resumed Hippocrates, to whom alone in this faculty he devoted himself for some time, making excerpts, and digesting them in such a manner', so as to render those inestimable remains of Antiquity quite familiar to him.

²¹ Cf. Lindeboom (1962).

²² *Oratio de commendando studio Hippocratico* (CSH), chapter 1 (66 KL).

*Studio ducitur, nec ponderat scientia, qui pulcherrima quaeque Recen-
tiorum incepta elevans Antiquos instar Deorum solos veneratur.*

*Et est mordacis utique invidiae favere plus vetustis, quam bonis
praesentibus.*

*Verum in alia longe ire solent plurimi, qui de labore Veterum fatis abjecte
cogitare proni, suae aetati largi tribuunt, quam Antiquis adentam laeti
ferunt, gloriam.*

*Hinc de promotis Medicinae hac tempestate pomoeriis jactantia. Inde tot
Satyrae in Veterum inscitiam.*

When we only venerate the Ancients like gods, and disparage the most brilliant efforts of the Moderns, we are driven by partiality and do not reflect upon the subject in a scientific manner. And gnawing envy is undoubtedly inclined to favour the Ancients rather than meritorious Moderns. Yet there are also very many people who run to the other extreme, who are apt to belittle the achievements of the Ancients and who delight in robbing them of their glory, in order to attribute it generously to their own age. Hence the boasts that nowadays the boundaries of medicine have been enlarged; hence the many gibes on the ignorance of the Ancients. *Oratio in qua repurgatae medicinae facilis asseritur simplicitas (RMS), chapter 6 (131 KL).*

Nevertheless, the importance of demystifying the ‘essential tension’ by which Boerhaave’s historical figure was characterized is not only due to the peculiarity of this sort of interplay, intrinsic to his own personality, between the champion of modernity in medicine and the *renovator* of the Hippocratic teaching. This tension makes sense only if seen in the light of the historical and historiographical question concerning the uses and meanings of the reception of Hippocrates, and if put in the context of the *Querelle des Anciens et des Modernes*. This quarrel developed between the seventeenth and the eighteenth century and, as far as medicine is concerned, in part belonged within and in part resulted from what Grmek has defined as the first biological revolution,²³ proving in many respects useful for the construction of a *progressivist* paradigm of medical knowledge as well as, more in general, of the ‘scientific’ disciplines.²⁴

²³ Grmek (1990).

²⁴ A volume edited by Lecoq (Lecoq 2001) contains all the writings that played a role in this quarrel, which of course was mostly within French culture and society but also spread beyond the boundaries of France becoming characteristic of an age, especially as far as medicine is concerned. As concerns critical bibliography, Fumaroli’s studies represent a cornerstone of scholarship (see especially Fumaroli 2001), but DeJean (1997) is of some use also (especially chapter 1, 1-30, and chapter 3, 78-123). On the specifically medical aspects of the quarrel see, for example, King (1965) 5-14,

As regards the first issue, it is undeniable that for decades there has been a historiographical tendency to hypostatize Hippocrates as an unambiguous historical entity and to regard Hippocratic values as unproblematic and unchanging; as a consequence, 'until recently, most accounts of the Hippocratic tradition tended not to explain variety, but to consider whether or not the various visions and uses of Hippocrates captured something of the original historical figure or his insights. From such a perspective, the historiographical task was to identify the true Hippocrates, and then to assess the authenticity of subsequent depictions of him and his medicine'.²⁵ This has effectively been the attitude of mind with which a number of scholarly contributions have also accounted for Boerhaave's reception of Hippocrates.²⁶ If this point of view were to be accepted (but this is not my intention, as I will make clear), discussing the traditional iconographical representation of Boerhaave as the 'Dutch Hippocrates' would be more or less equivalent to ascertaining whether the latter somehow conformed his doctrine and method to Hippocrates's 'genuine' ideas that were transmitted from one generation to another, or if Boerhaave's reception of Hippocrates belonged within those 'tales of decline and degradation' with which some scholars have often tried to account for aberrant interpretations of a definite *Hippocratism*, the authenticity of which they still take more or less for granted.²⁷ Now, as David Cantor has suggested, one should be conscious that, when speaking of Hippocrates and his medicine, the figure to whom we refer 'is not so much a real person as a malleable cultural artefact, constantly moulded and remoulded according to need'.²⁸ Hence, what we have to ascertain is not *whether* and *to what extent* Boerhaave was truly Hippocratic in his method and doctrine, but *why* he needed to refer constantly to Hippocrates and *how* he

especially when (p. 6) he remarks that 'in a sense the quarrel was one between the new science and the old humanities'.

²⁵ Cantor (2002b) 1.

²⁶ As an example of this attitude of mind one could mention, among others, Ludwig Edelstein's attempt to trace the 'genuine' works of Hippocrates (Edelstein 1939), and also Smith (1979). As Cantor 2002b has remarked, in his work 'Smith argues that accounts of Hippocrates and Hippocratic medicine have been shaped by what he calls the scientific interests of doctors and that these accounts have been taken up uncritically by subsequent historians and philologists. He focuses on what he calls the errors or aberrations of past interpretations [...] and is concerned to recover 'genuine' Hippocratic texts'.

²⁷ In his monograph on Hippocrates, for instance, Jacques Jouanna has openly claimed a study of the 'corruption of the *Hippocratic Corpus*' (Jouanna 1994, 364).

²⁸ Cantor (2002b) 3.

manipulated and remoulded Hippocratism to make it useful to his own aims and fully consistent with his own epistemological horizons.

These kind of problems intersect the second and more general issue I have put forward, that concerning the rise of a *Querelle des Anciens et des Modernes* in medicine between the end of the seventeenth and the first half of the eighteenth century. This debate was an expression of a sort of paradoxical attitude of mind which in most cases ended up reaffirming the link between the Ancients and the Moderns while admitting that the former were *distant* and *different* from the latter. What we have is, on the one hand, a new approach to the ancient medical tradition, an approach which eventually claimed to be *historical* and to give access to an *objective* insight into ancient medical authors. As Jackie Pigeaud has lucidly pointed out, one could say that we are in the presence of a 'histoire vraiment *historienne* de la médecine',²⁹ the aim of which was not immediately practical. This proves clear from the preface of Daniel Leclerc's *Histoire de la médecine*, which was the first explicitly intended 'History of Medicine', published in Amsterdam in 1723. I quote here an excerpt of this preface:

Il paraît [...] que personne n'a mis au jour l'Histoire de la Médecine, quoi qu'elle ait été promise, et que le livre que je donne aujourd'hui est le premier où l'on ait précisément traité cette matière.

[...] Cette Histoire doit entrer dans l'esprit de chaque siècle et de chaque auteur; rapporter fidèlement les pensées des uns et des autres, conserver à chacun le sien. Elle doit surtout se garder bien de donner aux Modernes ce qui appartient aux Anciens, ni à ces derniers ce qui est le partage des premiers, laissant à tout le monde la liberté de faire les réflexions convenables sur les faits qu'elle rapporte. Leclerc (1723).

On the other hand, along with this first attempt to 'historicize' the history of medicine,³⁰ we still find that physicians and medical authors used to refer to the past of medicine and feed the polemic for or against the Ancients (and especially for or against Hippocrates) in order to better organize the new fields they were opening and to bear out their new theories. It is significant, however, that these two ways of approaching the Ancients that we would be tempted to define as

²⁹ Pigeaud (2008a) 27.

³⁰ Besides medicine, a similar 'historicizing' attitude of mind was characteristic of the Renaissance approach to Antiquity in general and of Renaissance Aristotelianism in particular, as has convincingly been pointed out by Schmitt (1983, 1-9).

conflictive and mutually exclusive – one might speak of *histoire historienne* and *histoire militante* – were not perceived as such at all. Let me quote Jackie Pigeaud once again, when he writes that ‘on assiste, en même temps, à la renaissance d’une médecine qui prétend prendre les voies de l’histoire et se maintenir comme pratique historique, qui prétend unir l’histoire et la pratique, *en fait qui pratique sa propre histoire*’.³¹

Actually, this effort to practice medicine’s own history seems to have been characteristic of Boerhaave too, as is suggested, for instance, by his interest in reading and even re-editing ancient medical authors on the basis of available manuscripts and codices. The aim was in fact to scratch out interpolations and vacuous explanations and to put the original texts into ‘historical’ perspective so as to make them *reliable for medical teaching*.³² A productive interplay between history, epistemology and medical education was being sought. This becomes clear especially in the corpus of Boerhaave’s orations, that is, in those writings (9 in total) where Boerhaave laid down diffusely and very perspicuously the foundations of his own conceptual system and where he systematically outlined the function of tradition.

As we know, in Boerhaave’s time the academic life of the University of Leiden was marked by a number of official events. Getting a Readership or a Professorship and being appointed to or resigning from the post of Vice-Chancellor were circumstances in the life of an academic which required an official speech in the presence of the academic and sometimes municipal authorities, colleagues and students. Actually, these were the occasions in which, throughout his entire academic life, Boerhaave gave his orations, which are consequently diverse with regard to subject, theoretical approach, style and tone, each of these reflecting the maturity and the academic status he had reached.³³ However, in spite of this diversity (which is obvious

³¹ Pigeaud (2008a) 27-28.

³² Cf. Lindeboom (1974a) 145.

³³ Here is the full list of Boerhaave’s orations, with an indication of the year in which each oration was delivered and of the occasion: 1) *Oratio de bene intellecta Ciceroni sententia Epicuri de summo hominis bono*, delivered in 1689 when Boerhaave was still a student of theology; 2) *Oratio de commendando studio Hippocratico (CSH)*, delivered in 1701 when the University appointed him *lector*; 3) *Oratio de usu ratiocinii mechanici in medicina (URM)*, delivered in 1703, when Boerhaave was promised the first Chair in the medical faculty to become vacant; 4) *Oratio qua repurgatae medicinae facilis asseritur simplicitas (RMS)*, was the inaugural lecture, given in 1709 when Boerhaave was appointed professor of Botany; 5) *Dissertatio de comparando certo in physicis (CCP)*, delivered in 1715 when Boerhaave became Vice-Chancellor;

if one considers that his first oration was delivered in 1689 when Boerhaave was still a student and his last was given in 1730 when a by then aged Boerhaave resigned from the office of Vice-Chancellor, to which he had been appointed for the second time), we have the possibility of tracing a stable core of ideas and concepts which – while developing and being subject to clarifications, variations, and significant adaptations – remain *Leitmotive* of Boerhaave's thinking. The rest of this paper will thus pivot on textual materials taken from these orations and in particular from the *Oratio de commendando studio hippocratico*, delivered by Boerhaave in 1701 on the occasion of his appointment as Reader at the Faculty of Medicine. My aim is to elucidate

- 1) Boerhaave's main focus and theoretical goals;
- 2) the argumentative and methodological strategies he adopted in order to achieve them;
- 3) the position that the key-concept of 'tradition', the figure of 'Hippocrates', and the notion of 'Hippocratism' hold within these strategies.

The epistemological function of tradition

I think it is useful to start off by briefly outlining Boerhaave's point of view on the existence of a conflict between reason and experience in medicine. In *De commendando studio hippocratico*, chapter 2, thus at the very beginning of his oration, Boerhaave affirms that

Sed magnum semper inter Auctores, Scriptoresque rerum medicarum, certamen fuit, vine rationis, an experientiae usu medicina magis procederet? Neque defuerunt unquam praeclaro ingenio Viri, qui utrumque horum per se indigens, alterum alterius auxilio perficere, cum laude laboraverunt.

It has always been an important point of controversy whether medicine has made more progress thanks to theoretical reasoning or through profiting

6) *Sermo academicus de chemia suos errores expurgante* (CSEE), which was given in 1718 when Boerhaave became Professor of Chemistry; 7) *Sermo academicus quem habuit quum honesta missione impetrata botanicam et chemicam professionem publice poneret* xxviii Aprilis 1729 (SA); 8) *Sermo academicus de honore medici: servitute* (HMS), delivered in 1731 when Boerhaave resigned from the office Vice-Chancellor, which he had been entrusted with a second time. The last oration, less important than the others, is the *Oratio academica de vita et obitu viri clarissimi Bernhardi Albini*.

from experience. And there has never been a lack of men, gifted with brilliant minds, who made laudable attempts to perfect either of these two approaches with the help of the other. *CSH*, chapter 2 (66 KL).

In this passage Boerhaave raises two key-points: the first is that a polarization of the champions of reasoning and those of experience has always been characteristic of the medical debate; the second is that this polarization is, however, to be considered ineffectual, for the sole way to secure the advancement of medicine (the same followed by the most gifted and brilliant minds) is to make reasoning and experience compatible and mutually dependent on each other.

Now, the necessity for such a coexistence is put forward by Boerhaave on the basis of a triple order of reasons, which pertain respectively to the *definition*, the *history*, and the *cognitive procedures* (their effectiveness and fields of application) of medicine. As far as the definition of medicine and the individuation of the ultimate goal of a physician are concerned, Boerhaave affirms, again in chapter 2, that 'it is generally agreed that he who knows how to safeguard the health of the human body and to ward off the diseases which threaten it is a physician and should be acknowledged as such (*medicum esse atque haberi eum, qui corporis humani sanitatem tueri, atque infestos ei morbos propulsare novit*)'.³⁴ According to this definition, medicine as an intellectual activity can by no means be looked at as self-referential and purely speculative, but comes into existence only insofar as it results in a practice and proves effective within an experiential as well as cognitive domain. On the other hand, when outlining the key-passages in the history of medical knowledge Boerhaave seems to single out a sort of parable from one erroneous attitude of mind to its opposite, i.e. from the approach medicine had originally, a merely empirical one and one that was insufficient to gain certainty, to the sophisticated but empty theoretical speculations to which, in the eyes of Boerhaave at least, a significant part of medical science had been reduced for a long time. In *De commendando studio Hippocratico*, chapter 3, he sets forth that remedies based exclusively on experience were at some point found to be inadequate, which encouraged physicians to call upon the faculty of reasoning (*judicium rationis*

³⁴ *CSH*, chapter 2 (66 KL 1983). Cf. *RMS*, chapter 4 (129 KL): 'it is evident, I think, that only such things relate to medicine as safeguard man from the damaging of effects of diseases, by protecting his life and health' (*Ea solum ad Medicinam pertinere, quae, vitam tuendo atque sanitatem, ab injuria morborum tutos praestant homines, planum haberi arbitror*).

implorabant), ‘to discern and heal the essential evil, amidst very many accidental phenomena which could only be distinguished by the power of reason (*cujus sibi luce imprimis opus esse, ad dignoscenda et curanda mala, in plurimis et solius ratiocinii lumine distinguendis circumstantiis, dudum observaverant*)’.³⁵ We have good reasons indeed to think that here Boerhaave was referring quite explicitly to the age and figure of Hippocrates.³⁶ Nevertheless, continues Boerhaave, the virtuous balance between reasoning and experience, although fruitful, soon proved to be ephemeral and, when the ‘tedious task of finding things out through experience’ (*experiundi taedio*) was replaced by the inclination toward ‘subtle theorizing’ (*subtilitati ingenii*), then a medical knowledge from which any reference to practical experience had been erased ‘turned out to be *pernicious and fatal for the sick* (*aegris tamen perniciosa comperta fuit et fatalis*), notwithstanding that it was arranged according to the rules of eloquence (*ad eloquentiam composita*) and accepted by people who are given to philosophizing (*et Philosophantibus accepta*)’.³⁷

³⁵ *CSH*, chapter 3 (67 KL).

³⁶ The history of medicine, points out Boerhaave in chapter 3 of *CSH*, can be divided in at least four periods: 1) complete lack of medical knowledge: people used to look for remedies for their ailments by themselves and at some point someone started writing all the remedies that were found empirically; 2) the second stage of medical knowledge is represented by the medical science of the Babylonians and Chaldaeans. As Boerhaave points out, ‘they engraved the various kinds of diseases and their remedies on votive tablets and hung them up in the temples of the Gods; and they appointed separate physicians for each disease; and so they reduced the amorphous mass of experience in a useful and orderly manner to a systematic art which could be of practical use’; 3) the third stage is that characterized by physicians calling upon ‘the faculty of reasoning because they had already realized that they needed its light above all to discern and heal the essential evil, amidst very many accidental phenomena which could only be distinguished by the power of reason’. This seems to me to be the proof that it is possible to refer the golden age of medicine to Hippocrates and his teaching. In fact, as the history of medical knowledge entered into its fourth stage, physicians ‘focused immediately on subtle theorizing rather than on the tedious task of finding things out through experience; and they separated what their forebears had wisely and necessarily handed down to them as a coherent whole’.

³⁷ *CSH*, chapter 3 (67-68 KL). See also *CCP*, chapter 1 (155 KL): ‘For they are disgusted by the slow investigation of those phenomena which provide the information by means of which nature is revealed to our assiduity; and they think so highly of their own far-sighted intelligence that they deem it sufficient merely to refer to this intelligence in physical matters. They almost seem to think themselves able by mere meditation to find in their own thoughts the ways and means by which the whole universe holds together and moves; and from such speculations to bring forth these universal principles for the use of mankind. If we ponder the matter honestly in our

Apart from *demonstrating* that reason and experience should always be combined by means of a historical survey of the progresses and corruptions of medical knowledge, Boerhaave also *explains* why this is the case by referring to the specificity of the cognitive objective of medicine as well as of the intellectual procedures required to grasp this objective. In fact, in the *Dissertatio de comparando certo in physicis*, chapters 2 and 8, he points out that reasoning cannot be autonomous because the first and universal causes of those phenomena that medicine aims to investigate are 'wholly hidden from us' (*rerum principia omnino nos latere*) and it would therefore be impossible to compress them 'into the tiny enclosure of the human mind' (*exiguus mentis humanae cancellis*). Evidently, a significant space remains open to sensorial experience in comprehending phenomena, since in chapter 2 Boerhaave sets forth that 'only from the observations of our senses can knowledge of their properties be gained (*solis autem sensuum observatis addisci eorum dotes*)'.³⁸

The fact remains that, when speaking of 'experience' and 'observation', Boerhaave thinks of highly complex activities which do not exclude the intervention of reason as a source of generalization and systematization of acquired knowledge (as far as simple 'experience' is concerned) and an even more active role by the scientist in *preparing the field* for observation and in *carrying* it by means of experiments: reasoning – suggests Boerhaave – is necessary, but it is not self-sufficient and cannot represent the first step of the cognitive process. Its intervention must be seen, rather, as subsequent, even though it is also

mind (*si rem ipsam vere in animo cogitamus*), however, it will be seen that this cognitive error is a common source of corruption (*ipse hic error cognitionis nostrae corruptela communis habetur*); there is none other whose bad effects constitute a greater hindrance for the progress of medicine'; *URM*, chapter 26 (115 KL): 'That this is absolutely true with regard to those people who in their schools are puffed up by the proud title of Philosopher, is clear from history, from the volumes they have composed on medical subjects. For they bustle about, creating first principles of things out of their own thought (*omnium prima rerum principia ex propriis creare cogitatis*), and then elucidating the particular nature of every body from qualities they have previously conferred upon these principles by mere ingenious fancy (*dein vero ex iis, quae ipsi figmenti subtilitate prius in illis posuerant, peculiarem corporis cujusque naturam declarare*); but it is the genuine mechanical science, such as I am commending, which teaches that they are wrong on all points (*errasse ubique docet ipsa, quam commendo, Mechanices ratio*)'. Cf. Bacon (1879-1890), 4, 19: '...the empirical and the rational faculty, the unkind and ill-starred divorce and separation of which has thrown into confusion all the affairs of the human family'. Cf. the contribution of M. Malherbe on Bacon's *method of science* in Peltonen (1996) 75-98.

³⁸ *CCP*, chapter 2 and 8 (KL, respectively 155 and 158). Cf. KL (1983, 331 note 41).

coessential, to the careful and accurate collection of the largest possible amount of data. This method, which historians have rightly recognized as inductive and intrinsically Baconian,³⁹ as well as the notions of ‘experience’ and ‘observation’, which heralded the Enlightenment definition of *expérience raisonnée* and *observation expérimentale* that César Chesneau Du Marsais and D’Alembert gave in the *Encyclopédie* a few years later,⁴⁰ were both very attentively shaped by Boerhaave, in an attempt to cope with the complexity and multiformity of reality. Here it suffices to recall two passages from *De commendando studio hippocratico*, taken respectively from chapter 4 (on reality as a complex object) and from chapter 21 (on the inductive method):

Hanc ergo ut lege rationis investigatam causam evidentia demonstres mathematica, oportebit prius ex actissime cognitae habere singulas ejus proprietates et vires seorsim spectatas, atque deinde ex iis ad se mutuo comparationis ope relatis novas, quae hinc detegunt, invenire.

Quum vero mentis nostrae intellectum non illustrent illae proprietates, nisi per effecta sua, quae sensibus se cognoscenda praebent; palam est, omnia illa, quae causae, accidentium, vel effectorum ratione in sano vel morbo flatu adsunt, indaganda et describenda esse, antequam de prospera vel adversa valetudine atque utriusque mediis statui quidquam possit.

Agitur hic enim de rebus ipsis, prout ab suis causis in rerum natura constituuntur: quae semper singularissimae, et a peculiaribus circumstantiis undique dependentes sunt; in quas proinde vis demonstra-

³⁹ On Boerhaave’s Baconianism see Lindeboom (1974b) 6, and KL (1983) 56–60.

⁴⁰ In fact, in the *Encyclopédies des sciences, des arts et de métiers* (vol. 6, 297b) in the entry ‘*Expérience*’ we read that ‘*en physique le mot expérience se dit des épreuves que l’on fait pour découvrir les différentes opérations et le mécanisme de la Nature [...] Mais ces épreuves doivent être faites avec beaucoup de précision et d’exactitude, si l’on veut en recueillir tout le fruit qu’on en doit attendre [...] les spéculations les plus subtiles et les méditations les plus profondes ne sont que des vaines imaginations, si elles ne sont pas fondées sur des expériences exactes*’. But, what is even more interesting is Du Marsais’s definition of experience in reference to what he calls *philosophie naturelle*, as he sets forth that experience is ‘*l’épreuve de l’effet qui résulte de l’application mutuelle ou du mouvement des corps naturels*, afin de découvrir certains phénomènes, et leurs causes’. On the other hand, in the entry ‘*Expérimental*’ (vol. 6, 298a–b) we find D’Alembert’s very clear distinction between the concepts of ‘experience’ and ‘observation’, as he puts forward that experience ‘*moins recherchée et moins subtile, se borne aux faits qu’elle a sous les yeux, à bien voir et à détailler les phénomènes de toute espèce que le spectacle de la Nature présente*’, observation by contrast ‘*cherche à la pénétrer plus profondément, à lui dérober ce qu’elle cache; à créer, en quelque manière, par la différente combinaison des corps, de nouveaux phénomènes pour les étudier: enfin elle ne se borne pas à écouter la Nature, mais elle l’interroge et la presse*’.

tionis abstractae, universalis, et indefinitae non eam lucem infundit, quae rebus gerendis requiritur.

If you wish to demonstrate this cause with mathematical clarity, investigated in accordance with the rules of logic, you must first acquire a most accurate knowledge of all its properties and force, each considered separately; and afterwards new deductions can be made from these phenomena, related to each other by mutual comparison [...] because these properties can only be perceived by our mind through their effects which are open to sense-perception, it is obvious that everything in the way of causes, accidental details, or effects to be found in a condition of health or disease, will have to be examined and described before one is able to arrive at any conclusion about good or bad health, or intermediate conditions. For we are dealing with the data of reality, as they are produced by their specific causes in nature, and these are always individual and dependent on specific circumstances; and therefore the powers of abstract, general, and unspecific reasoning cannot elucidate them to such an extent as is required if one is to take action. *CSH*, chapter 4 (68 KL)⁴¹

In demonstrationibus naturalium, quae semper singulares, definitae, atque ab aliis omnibus per minima diversae sunt, colligenda esse quaecumque ullo nomine ad eas spectare observantur, sive has praecedant, comitentur, vel sequantur: illa dein collecta monent cognoscenda esse singula quam clarissime, denique ad haec omnia singulatim probe cognita attendendum quam accuratissime, atque ita demum concludendum, prout haec omnia simul exigunt, severitate summa.

Ita res ratiocinia, non haec illas determinarent.

Ita conclusiones non vagae essent, cuilibet aptandae quaesito atque abstractae, sed definitae, exactae, atque rem hanc singularem, prout est, describentes.

If we set out to prove some point with regard to natural phenomena which are always singular, definite, and in minute details differing from all others, then we have to collect whatever is seen to relate to these phenomena in any way, whether it precedes, accompanies, or follows them. The next requirement is that we get to know each of the items so collected as clearly as possible; then we have to take into account all that has become known in its single aspects; and so, finally, we ought to arrive at a conclusion with the greatest severity, in accordance with the requirements of all these points. Thus the facts would determine the argument and not the other way round. Thus conclusions would not be vague, adaptable at will to all problems

⁴¹ Interesting analogies with passages from Bacon's works have been set out by KL (1983) in their *ad locum* comment, 308 note 52.

raised, and abstract, but rather well-defined, exact, and descriptive of a particular phenomenon as it really is. *CSH*, chapter 21 (80 KL).⁴²

It is no exaggeration nor is it a paradox to say that it was by reason of his pragmatic and progressive view of medicine as a science that Boerhaave was able to ascribe a positive epistemological function to tradition. In fact, the emphasis on ‘pragmatism’ and ‘progress’ vs. subtle theorizing and the passive reception and transmission of a corpus of established but unverified knowledge was a distinctive feature of Baconianism.⁴³ It is worth saying, however, that neither in the case of Bacon nor in that of Boerhaave was the concept of ‘progress’ shaped as an *ideological and indiscriminate claim* for the superiority of the Moderns over the Ancients. Rather, in its being meant in terms of ‘advancement’ of learning, that is of ‘exploration of unknown lands’,⁴⁴ progress became – in Boerhaave as well as in Bacon – the ultimate *raison d’être* that all scientific knowledge (and medicine as such) *must* have or *should* have – since, historically, this has not always been the case.

Moreover, when claiming the formation of a reasoned experience, one which results from clinical observations as well as from chemical and mechanical experiments and which aims at encompassing the diversity and even singularity of phenomena related to health and diseases, Boerhaave has to admit that ‘this task is so enormous and so difficult (*tanta haec, tamque difficilia sunt*) that no mortal has sufficient time, opportunity, or energy of body and mind that he may expect to accomplish it unaided (*ut ab se uno haec absolvenda speret*)’ (*CSH*, chapter 5). The impossibility for any individual to cope with so immense a field of research makes it necessary to conceive medicine as an intrinsically cooperative form of knowledge. As is pointed out in the same chapter 5 of *de commendando studio hippocratico*, ‘either everyone has always to start from scratch and thus medical knowledge will at all times be limited by the effort of each individual physician, or *we cannot but accept the inevitable necessity* of reading the writings of those people who have studied this art before us (*inevitabilis incumbit*

⁴² See also the *ad locum* comments at page 312 note 99). Cf. *CSEE*, chapter 11 (199-200 KL). On this passage, and more in general on the place of chemistry in Boerhaave’s system of medical thought, see Knoeff (2002) 189-93.

⁴³ See Rossi’s contribution in Peltonen (1996) 25-26 and 37-43, and Rossi (2004); see also Whitney (1986, parts II, 79-154 and III, 157-204).

⁴⁴ So Rossi (in Peltonen 1996) 42.

necessitas legendi scripta eorum, qui ante nos de hac arte commentati sunt)'.⁴⁵

It is clear, on the one hand, that the assimilation of selected past experiences, observations and knowledge (in short, the assimilation and selection of tradition) is among the most important aspects of cooperation in medicine. On the other hand, Boerhaave explicitly sets forth that specific qualities are required of physicians in order to make cooperation effective and to improve the general comprehension of the human body and its states. These qualities are both *intellectual* and, so to speak, *moral* and are reflected by the three key notions of 'simplicity', 'clarity' and 'trustworthiness'. So, lucid reasoning as well as a clear exposition of his own achievements are the first things a physician must be able to provide:

Quodcumque in adversaria medica referri meretur, ut scribendae historiae et dirigendo ratiocinio inserviat, tam evidens fit oportet, ut de eo sanae mentis dubitet nemo, vel cum ratione disputet.

Neque minus necesse est eadem illud narrari simplicitate, qua sensibus ab ipsa natura revelatur.

Whatever deserves to be said on medical issues, if it is to be conducive to an investigation or to guide our reasoning, it should be so clear that no sane mind may doubt it or use rational argument against it.

It is equally necessary that it should be written down with the same simplicity with which it was revealed by Nature to the sense-perception. *CSH*, chapter 6 (69 KL).⁴⁶ (cf. *Oratio in qua repurgatae medicinae facilis asseritur simplicitas*, chapter 2).

Literatorum epulis suavissima haec condimenta stomachum movent illi, qui id unum sedulo operam dat, ut certa et clara signa atque remedia utriusque valetudinis addiscat; qui id sibi inprimis credit negotii datum, aegris ut placeat, non eloquentia, sed sanatione.

These most agreeable spices of the dishes of the literary are revolting when we exert ourselves to the utmost to achieve *this single aim*: to get to know the trustworthy and unmistakable characteristics of, and remedies which

⁴⁵ *CSH*, chapter 5 (68-69 KL). See again what Bacon writes on cooperation (Bacon 1879-90, IV, 291): 'I take it that all those things are to be held possible and performable which may be done by some persons, though not by everyone; and which may be done by many together, though not by one alone: and which may be done in the succession of the ages, though not in one man's life'. On Bacon's claim to cooperation in scientific research see Sargent's contribution in Peltonen (1996) 146-171.

⁴⁶ Cf. *RMS*, chapter 2 (128 KL): 'Simplicity, therefore, is a characteristic of truth everywhere (*Veri ergo character ubique est simplicitas*), and the most reliable guide in its pursuit (*illi indagando fidissima haec index est*)'.

relate to, health and disease. They are revolting to us who believe that this is the first and foremost duty imposed on us: to give satisfaction to the sick, not by eloquence but by a cure. *CSH*, chapter 8 (71 KL).

As this text makes clear, however, this simplicity is far from being just a *natural* attribute which the mind of a physician is (or is presumed to be) endowed with. Rather, simplicity and clarity also testify to the *moral* stature and education of a doctor, for they are the result of an assumption of responsibility by him and of an awareness that the sole aim he has is to take care of the sick by prescribing the most effective therapy, and not to show off the flowers of a vacuous eloquence.

It is no surprise that Boerhaave substantiated his argument by turning so largely to Hippocrates and arguing for the necessity to read his works. If tradition was to be taken into account by everyone who sought to acquire medical knowledge, Hippocrates represented the brightest star in the firmament of ancient medical authors. If medicine needed to be legitimated because of the difficulty of its task, Hippocrates could no doubt provide the best source of legitimation, as he was seen traditionally as the authoritative father of medical practice.⁴⁷ Finally, if medicine was to be based on ‘experience’ and ‘observation’, this, however, would have proved impossible without referring to what was still looked at as the old Hippocratic ‘discovery’ of an observation-based medical practice.⁴⁸

Now, Boerhaave was not the first (nor will he be the last) to use Hippocrates and Hippocratism to strengthen and to exemplify his own idea of medicine. Nonetheless, if seen in the wider context of the history of the Hippocratic reception, the Dutch physician showed an exceptional ability to handle the textual and historical materials he had at his disposal, and it is striking to observe how consciously and coherently Boerhaave moulded the portrait of Hippocrates so as to make the latter the perfect embodiment of *all* the epistemological, intellectual and moral issues he himself intended to raise. This is particularly clear in a number of passages of *De commendando studio Hippocratico*. In chapter 9, for instance, Boerhaave emphasises the ‘vivid and untiring attentiveness’ (*vividam illam, atque nullo fractam labore attentionem animi*) of Hippocrates’s mind, the ‘admirable and

⁴⁷ Cf. King (2002).

⁴⁸ Quite interestingly, however, in the Hippocratic treatises there is no trace of an explicitly defined notion of ‘observation’ (at least, of what we moderns could define as ‘observation’, as has been convincingly argued by Lloyd (1979) 129, and Langholf (1990) 193.

ever alert diligence with which he [Hippocrates] scrutinized everything which is relevant to the matter in hand' (*admirabilem, neque unquam torpentem diligentiam, qua quidquid ad rem facit, indagavit*), and even 'the incomparable and superhuman benevolence with which he communicated the fruits of his exertions to the world (*incomparabilem et plusquam humanam, qua suo parta labore orbi communicavit, benevolentiam atque fidem*)'.⁴⁹ But it is in chapter 15 and 16 that Boerhaave's strategy proves most perspicuous. Here Hippocrates's method of investigation is reconstructed by taking a corpus of (spurious) letters written by, or addressed to, Hippocrates as a source of information. Moreover, Boerhaave refers especially to those materials and anecdotes he found in a fake oration attributed to Hippocrates's son Thessalus.⁵⁰ It would be very interesting indeed, but also too lengthy for this paper, to draw a detailed comparison between Boerhaave's text and his ancient source.⁵¹ Suffice it to say, first, that in Boerhaave's account Hippocrates's subordinates are explicitly given the task of collecting particulars and providing their master with information, while nothing is said in Thessalus's tale about such a specific task, and, second, that this manipulation of his source enables Boerhaave to represent Hippocrates as the prototype of the perfect Baconian medical scientist, that is, of a physician who aims at encompassing and at unifying all the available knowledge provided by many.⁵² The following excerpt from *CSH*, chapter 16, however, is worthy of attentive consideration:

⁴⁹ *CSH*, chapter 9 (71-72 KL).

⁵⁰ All the pseudepigraphic Hippocratic writings (including 24 letters, the 'Decree of the Athenians', the 'Speech at the Altar' and the so-called 'Embassy', that is 'The Ambassadorial Speech of Thessalos, son of Hippocrates', which is the text which Boerhaave refers to) have been collected and edited by W.D. Smith (1990).

⁵¹ Such a comparison has been attempted by Kegel-Brinkgreve and Luyendijk-Elshout in their edition with English translation of Boerhaave's orations, which I therefore refer to (58-60 KL).

⁵² Actually, *this* was exactly Bacon's view on Hippocrates. As Smith (1979, 18) has pointed out, 'Bacon distinguished Hippocrates from all others in his survey of the condition of medical science' and lamented 'the discontinuance of the ancient and serious diligence of Hippocrates, which used to set down a narrative of the special cases of his patients and how they proceeded, and how they were judged by recovery or death'. Bacon praised Hippocrates's methodology as appropriate to the new science he envisioned and thus foreshadowed the direction the new Hippocratism was to take'. Bacon's views on medicine have been discussed more diffusely by Minkowski (1993) 325-353.

Alii, quid unius, hic, quid plurium industria valeat, exhibet: Alii, suis modo vident oculis, hic multorum usus est acie: Caeteri per singulos aegros, hic per eorum agmina experimenta fecit: Pauci, quid intra arcta unius Urbis pomaeria morbi fit, tradiderunt, Ille, quae in tot vicos, urbes, regiones, et regna lues grassaretur, observabat.

Others demonstrate what one man's diligence may accomplish – this man what the diligence of many may do. Others see only with their own eyes – this man used the sight of many. Others experiment with a few patients – this man with legions of them. Some few people have reported what diseases they found within the narrow confines of a single city – this man observed an epidemic raging in many villages, towns, regions and kingdoms. *CSH*, chapter 16 (77-78 KL).⁵³

Taking Hippocrates as a model was therefore a clever move to reaffirm the necessity of an attentive scrutiny of reality and a way to legitimate a *modern* and *newly shaped* concept of cooperation as a key to a positive method of investigation in medicine. But it was also a way to give a warning that the intellectual qualities of a physician always result from character in its broader sense, for neither would observation be successful nor would cooperation be possible without the intervention of moral qualities such as tirelessness, diligence and benevolence. That is also why Boerhaave so strongly stigmatizes the rejection of the man, Hippocrates, who is said to have embodied all these qualities and associates such rejection, common to many physicians contemporary to him, with a sign of *moral* as well as intellectual degeneration:

Damnosa qui non imminuit inertia! Dum ab laboriosa observatione, ad Philosophorum placita, ab dictatis naturae, ad garrulitatem, ab Hippocraticis effatis, ad lubidinem fingendi devolutam dolemus!... cyclicorum technas...impudentis ignorantiae portenta.

Pernicious inertia encroached upon one and all! We deplore the fact that medicine degenerated from painstaking observation to the assertions of philosophers, from the precepts of nature to garrulity, from the utterances of Hippocrates to wanton phantasies...tricks of mountebanks...the monstrosities of shameless ignorance. *CSH*, chapter 13 (75 KL 1983, 75).⁵⁴

⁵³ Moreover, a similar method of collection of data had been recommended by Giorgio Baglivi, as highlighted by King (1965) 18-19.

⁵⁴ It is worth comparing Boerhaave's condemnation of physicians' verbalism for its dangerous effects with Molière's, who more than once depicted the figure of the 'learned physician' satirically in his comedies, especially in *L'amour médecin*, written in 1665, and in *Le médecin malgré lui*, written in 1666. I will quote here by way of example an excerpt of *Le médecin malgré lui*, which Lester S. King in turn quotes in his *Boerhaave lecture* (King 1965, 13-14): '...I maintain that this impediment to the

As this passage makes clear, however, Boerhaave's claim to observation and purity of mind did not only result in a tribute to Hippocratism, but also – and I would like to say at the same time – in an exhortation to follow nature. As he emphatically sets forth, in fact, 'only he who is free from all sectarianism, unfettered by any preconceived ideas, devoid of all leanings towards prejudice (*Solus ille, qui omni partium studio liber, nulli opinioni serviens, omni denique praejudiciorum amore vacuus*); he who merely learns, accepts, and relates what he actually sees (*ea discit, ea recipit, ea narrat, quae videt*)', this man 'will be able to follow Nature as his sole guide (*aptus erit, in factorum historia, solam naturam ducem sequi*)'.⁵⁵ Actually, what Boerhaave does here is to draw on and to connect two assumptions that, although interpreted in different ways, had nonetheless risen to *loci communes* of medical thought a long time ago: the first assumption says that 'Nature is to be followed as the sole source of Truth', and this must have sounded like an essential point to the believer Boerhaave who looked at Nature as the ultimate manifestation of God's creating will;⁵⁶ the second assumption says that

action of the tongue is caused by certain humours which we scholars call the peccant humors...the vapors formed by exhalation of influences which arise in the region of disease...[and then, after making sure his interlocutor does not understand any Latin, breaks into Latin gibberish which much impresses his audience. He continues]... these vapors of which I speak proceeding from the left side, where the liver is, to the right side, where the heart is, it happens that the lung, which we call in Latin *armyan*, having communication with the brain, which we designate in Greek *nasmus*, by means of the vena cava, which we call in Hebrew *cubile*, meets in its path the above mentioned vapors which fill the ventricles of the scapula...[and so on with further nonsense, ending up with the triumphant conclusion] and that is truly what it is that makes your daughter mute'.

⁵⁵ *CSH*, chapter 6 (69 KL).

⁵⁶ Boerhaave's faith and devotion was proclaimed by Boerhaave himself (in his autobiographical notes he stated that at every opportunity he professed that tranquillity of mind comes only through the life and words of Jesus Christ) and is therefore well known to scholars as one of the distinctive features of his personality. The young Boerhaave had studied Theology and for a long time he cultivated the idea of ministry before starting his activity as a practitioner and a medical teacher. In a passage of his *Life of Dr. Boerhaave*, Samuel Johnson informs us that, when impeded from pursuing his original aim, 'he thought it neither necessary nor prudent to struggle with the torrent of popular prejudice, as he was equally qualified for a profession, not indeed of equal dignity or importance, but which must undoubtedly claim the second place among those which are of the greatest benefit to mankind' (italics are mine). But it has been a merit of Rina Knoeff's recent monograph on *Herman Boerhaave Calvinist Chemist and Physician* (Knoeff 2002; see also Guerrini's review to the monograph, Guerrini 2003)

‘Hippocrates and his teachings function as a mirror of Nature and consequently as a mirror of Truth’.⁵⁷ I think it is worth quoting some of these passages, which testify to this correspondence between Hippocrates and Nature and between them and Truth:

a. The necessity of following Nature as the only source of true knowledge

But who will be able to follow Nature as his sole guide when investigating facts? Who will never go astray? Who will always avoid uncertainties? Only he who is free from all sectarianism, unfettered by any preconceived ideas, devoid of all leanings towards prejudice; he who merely learns, accepts, and relates what he actually sees. *CSH*, chapter 6.

The very fact that this pleasure is so ingenuous weans the plant-lover’s mind from deceitful practices, draws him away from greed, entices him with the charm of pure and unadulterated truth, and proves to him through actual example how blessed is an existence within the limits of nature [...] indeed, the study of nature also forms and creates habits and moral characteristics which are noted and admired in our leading botanists. *CCP*, chapter 9.

What I would like to prove is that this glory consists solely in the fact that the physician is a humble servant of Nature. *HMS*, chapter 2.

If we desire to become acquainted with this nature, our senses, the acute and reliable scouts of the mind, must be sharpened by all possible means; and when their powers have been increased through skill and knowledge, the human fabric may be explored [...] in this he will be taught by Nature alone, as she reveals herself to the senses. The whole of the physician’s science, then, by means of which he acquires this insight, derives solely from the teachings of Nature. *HMS*, chapter 8.

You, Man, may realize from this that you cannot understand anything at all about even the minutest particles of the ingenious structure of the body, apart from the knowledge for which you are indebted to Nature alone, in as

to shed new light on the influence of Boerhaave’s beliefs and Calvinist idea of God and Nature, on his concept of science and his views on medicine (this influence on the other hand, emerges very clearly from the last of Boerhaave’s orations, entitled *De honore medici, servitute*). See also Lindeboom (1957) and (1968) 261-263. A position not contrary, but certainly complementary to that of Knoeff, has recently been expressed by Cook (2007).

⁵⁷ On the other hand, the link established between the figure of ‘Hippocrates’ and the notion of ‘nature’ will also recur in the history of medicine after Boerhaave. Littré’s medical dictionary, in fact, defines ‘hippocratism’ as ‘the doctrine which attempts to imitate Hippocrates, giving to this imitation the particular sense of following nature, that is to say of studying the spontaneous effort that it makes and the crises that it produces’ (Littré-Robin 1865, 717; cf. Weisz 2002, 270). On Boerhaave’s concept of nature, on the other hand, see Knoeff (2004).

far as she has granted to you to become acquainted with her by means of sense perception. *HMS*, chapter 10.

If it is granted that the practice of our art mainly consists in getting to know these motions and how to regulate them with salutary effect, the physician will also achieve the best results here through mere obedience to Nature. If he pays attention to her she will teach him the laws to which she is bound in creating, maintaining, and modifying motions [...] the keenest of intelligences, even if most attentively focusing on these matters, is unable to understand them, when relying exclusively on its own powers; but with Nature as our sole teacher we will learn all. *HMS*, chapter 15.

b. Hippocrates as a follower of Nature and as a mirror of Truth

...a single one who is both original in his argument and always keeps within the bounds of inviolable and unfettered truth. Only that Founder of our science excels in this admirable purity; only he is unshackled [...] the senseless quarrel about the first combination of primary elements of life has never prevented his mind from penetrating the true occurrences of reality. *CSH*, chapter 6.

He [Hippocrates] never invented what he had not actually observed; he never failed to note what there was to observe; he never twisted or meddled with the truth when describing the works of nature, so as to achieve lasting fame for a hypothesis that otherwise would have been seen to be shaky. *CSH*, chapter 7.

The pages of Hippocrates, which contain more of the truth than the Sibyl's leaves and give utterance to the grave oracles of Nature. *CSH*, chapter 8.

Hippocrates, greatest of all, has proved himself to be such a man; he acknowledges Nature as the healer of diseases, and he asserts repeatedly that she is sufficient to herself in all situations; that she imparts, governs, and maintains the vital functions; that she never undertakes anything foolish or aimless, and favours the normal; that it is the duty of a physician, her servant, to observe, to recollect, to compare, and to reason solely on the basis of such data; so that he may generously place at her disposal what is needed; remove obstacles, with provident care, help Nature and follow her lead; and that thus, by never going against her, but by following her as the faithful guide, we are granted a long span of healthy life. *HMS*, chapter 21.

From an analysis of these passages it is frankly unavoidable to notice that, as usual for him, Boerhaave did not limit himself to passively assimilating these two assumptions and to making use of two universally accepted commonplaces of medical praxis only for rhetorical or polemical purposes, for instance for arguing against this or that theory according to the old-fashioned rhetorical pattern of medical academic disputations. What he actually did was to give an original and, in many respects, *revolutionary* interpretation of the *fil rouge*

running through the figure of ‘Hippocrates’ and the notions of ‘Nature’ and ‘Truth’, as he first looked at them from the point of view of medical *epistemology* as well as medical *practice*.

In order to fully appreciate the significance of this innovation, we have to understand what the accepted meaning of a precept like ‘follow Nature’ was in late seventeenth/early eighteenth century medicine; moreover, we have to wonder *what that nature* which we are actually speaking of when referring to such a precept is, in other words *how that nature was defined* by physicians at the time.

I think it can be of some use in this connection to refer once again to John Barker’s essay *On the Agreement Between Ancient and Modern Physicians*. This work is important for at least three reasons:

- 1) it was written in 1757 (thus, after Boerhaave’s death) and belongs entirely within the *Querelle des Anciens et des Modernes*;
- 2) it represents a strenuous defence of Hippocratic medical practice against *modern* subtle theorizing;
- 3) it speaks of Boerhaave as of the most veracious incarnation of the Hippocratic method while propounding a point of view that I find frankly *regressive* if compared with Boerhaave’s, even though Barker’s argument cannot have been perceived as such by his contemporaries.

In the preface to his work, Barker defines Nature as somewhat coterminous with the art of medicine: ‘it is in the active sense of the word ‘nature’ – he says – that the terms of ‘nature’ and ‘art’ are thought to coincide, or that nature is considered as art; since in this sense *nature as well as art, may be defined to be an efficient cause, which ends either in some energy, or in some work*’.⁵⁸ This *functional* and, so to speak, *de-ontologizing* definition of ‘nature’ can be explained only in the context of the controversy between clinicians, rationalists and medical theoreticians. In fact, this notion of Nature enables Barker to argue for the existence of *an invariable rule* which says that ‘a physician should be the minister of Nature’, and also enables him to carve out a place for medicine as a *technically structured* form of *practice* which imitates the actions of Nature – actually, the first and the most perfect kind of Art –, and which assists, restrains or directs Nature’s efforts, while remaining substantially extraneous to any

⁵⁸ Barker (1757) 14.

theoretical speculation. This is clear from the following excerpt of Barker's argument:

... But a physician is acquainted with the proper time and manner of administering medicines, not because he is a *rational animal*, but because he has learnt the art of distinguishing between what is wholesome and what is otherwise. For if he knew these things only by being a *rational animal*, certainly all men would be physicians. The art of physick, then, is prior in rank and dignity to the physician, because it is by the help of this art, that he is able to remove diseases. And in the same manner, as the instruments which he makes use of, are subservient to the physician, and the art of physick, so is the physician, and his art, subservient to Nature, who orders all the operations in the body. From hence it is evident how much Nature surpasses all those arts, which any contribute towards preserving or restoring health, since the office of all the rest is only to supply her with materials to work with, in like manner as other subordinate arts supply the physician with materials. Notwithstanding, then, it may be said that Nature is the principal of all those arts which administer to Health, or in other words, the chief efficient cause of health, yet the Art of physick, the physician himself, and the medicines which he makes use of, may all of them be considered as subordinate causes, which concur in producing that effect; and, if, in this claim of causes, any single one was wanting, the effect would certainly not be produced. And hence it appears that the art of physick is not an unnecessary, or superfluous art. Barker (1757) 14.

This is the point: the invariable rule according to which a physician must always follow nature, related exclusively to the practical domain. Nature could be *imitated* and one and only one way of imitating her (the Hippocratic way) was accepted; by contrast, Nature could not be *explained* effectively, for explanations were considered merely subsidiary, when of little or even of no use, to producing substantial improvements in practice.

Barker, however, is only the last of a series of scholars to postulate the more or less relative autonomy of medical practice from the attempts to explicate the physical structure of the body and the physiological processes occurring in it. For instance, in the second half of the seventeenth century a protagonist of the biological and anatomical revolution in medicine, Giorgio Baglivi (whose figure was in many respects characterized as that of a progressive physician), had set forth that a resolution to the quarrel between the Ancients and the moderns was to be found, preserving the reverence for the Ancients but at the same time accepting the new scientific attitudes and praising the enhancement of knowledge in fields such as physics, mechanics and

chemistry. Baglivi tried to achieve this resolution exactly *by separating off* quite sharply medical theories from medical practice. In fact, the theories adopted by the modern physicians were said to be much more reliable than those of the Ancients; by contrast, as concerns practice, Baglivi maintained that the best examples to follow were still provided by the observational care shown both by Hippocrates and by Galen.⁵⁹

But let us return to considering Barker's own ideas by spotlighting a significant passage from his essay, where Boerhaave is explicitly mentioned. Barker writes that

The changes which have been made in the state of Physick, since Sydenham's time, have been, for the most part, rather *improvements upon*, than *deviations from* the plan of Hippocrates. For the most considerable of them have been introduced by the mechanical physicians; but these have rather busied themselves in explaining the structure and action of the parts, in accounting for the symptoms of diseases, and unfolding the virtues of remedies, than in establishing new rules of practice. The mechanical medicine may therefore more properly be said to be an illustration of, or improvement upon the Hippocratic, than a new-invented system. The learned, industrious Hoffman has shewn the conformity which there is between them [...] Boerhaave has done the like. And the latter, notwithstanding he has gone farther than any one, in applying the science of Mechanics to medicine, yet, in his practice, he was strictly speaking an Hippocratical physician: and he himself observes, in treating on this subject: 'that he who despises an experienced physician, because he is not skilled in mechanics, acts absurdly; but that if two physicians have equal experience, he that is most versed in mechanical studies will be the best'. Barker (1757) 176.

To my eyes there are two main points in Barker's argument: the first is that, when mechanical explanations are used to provide traditional practice with some additional support, they do not so much deviate from, but rather integrate into the established knowledge; the second is that even Boerhaave, the champion of mechanical sciences applied to medicine, maintained that practice was substantially distinct from explanations and recognized the priority of experience over explanations. It seems to me, however, that Barker has underestimated the impact of mechanical sciences on medicine and has also dramatically misunderstood Boerhaave's point of view. In fact, the only opposition Boerhaave accepts (the only, in fact, that we can trace in the whole corpus of Boerhaave's orations) is that between experience,

⁵⁹ Cf. King (1965) 16-17.

which is said to be good, and *a priori* reasoning, which is viewed as bad. But Boerhaave's concept of 'experience' is anything but merely empiricist.⁶⁰ Rather, it is somewhat inclusive of, and not extraneous to, the study and the comprehension of the mechanical structure of the body, and thus implies a close union between the rational and the empirical faculty, exactly the same union which Bacon alluded to when speaking of a '*via media inter experientiam et dogmata*' as the only way to secure the advancement of scientific learning (Bacon, *Works*, III, 573). To turn to Boerhaave's assertion which Barker referred to, one can assess its exact meaning and epistemological value only by reading Boerhaave's original text from the oration *De usu ratiocinii mechanici in medicina* (URM) chapter 26:

Non in Mechanico Medicinae, in Medico vero Mechanices peritiam desidero.

Usu peritum Medicum experimentis medicis defecto Mechanico in morbis curandis qui post habet, insaniet.

Sed aequa instructorum experientia hunc promovendae, arti meliorem, qui Mechanicis callet prae alio praeceptis, id affirmo, id demonstrandum sumserat Oratio.

I do not ask for expert knowledge of medicine in a mechanician, but I want the physician to have expert knowledge of mechanics. When curing diseases is the issue, it would be madness to hold a physician, educated by practice, in lesser esteem than a mechanician who has no experience in medical matters. But among the physicians who have had the benefit of an equal amount of practice, he is best able to advance his art who excels the others in a thorough knowledge of the rules of mechanics – that is what I maintain and what I undertook to prove in this speech. URM, chapter 26 (115 KL).

When Boerhaave stigmatizes those who despise an experienced physician for not being educated in mechanical sciences, he does not intend to argue against mechanical sciences as if these were not useful or merely accessory. Rather, he explicitly points out that experience is, of course, preferable to pure theory if these are to be considered separately, but the *best* and most reliable physician is the one who follows nature in his practice *after* studying and grasping the mechanical structure of the body (significantly, in the original text Boerhaave affirms '*in Medico vero Mechanices peritiam desidero*').

⁶⁰ Cf. Cook (2000) 238.

Boerhaave's problem, therefore, is not to rudely contrast experience with reasoning and explanations. One could say that his target was to put medicine in a solid 'scientific' framework, while making this framework consistent with – and a result of – the everyday observational practice of a physician rather than abstract deductions. His work did not consist in integrating or expanding the established medical knowledge, but in providing *new* cognitive tools for coping with the diversity, multiformity and even singularity of the bodily phenomena, and also in *rethinking* and reconfiguring the foundations as well as the learning of knowledge while maintaining the traditional label of 'Hippocratic'.⁶¹

This reconfiguration stems for the most part from the new anatomical insights which had raised the idea of a *humani corporis fabrica* and had contributed to legitimating the mechanistic approach to the hidden bodily structure as the basis of medical knowledge. In fact, anatomy and autopsy had demonstrated that investigating structures as a key to the nature of the human body was definitely far simpler and more reliable than trusting in abstract deductions and unverified axioms or second-hand observations, but they had also shown the intricacy of bodily shapes and the complexity of the physiological processes occurring in the body.⁶² This led Boerhaave to think that it must be impossible to have access to the *first* causes of bodily processes but that it was possible, and even necessary, to grasp and describe the *material* effects of these unintelligible causes, effects which appeared

⁶¹ Cf. Powers (2001) 101-103.

⁶² The same ambivalence characterized the feelings towards nature and medical research that the new anatomical knowledge raised in Boerhaave. On the one hand, he never failed to praise the new insights provided by the anatomists as the true novelty which medicine had to deal with. Cf. *RMS*, chapter 10 (134 KL): 'As soon as Harvey, that bright morning star, shone forth, and the rising sun, Malpighi, appeared to us, the vapours created by riotous ingenuity were dispersed by the sight of the fabric, previously hidden. But at the same time almost no prudent and honest man, being astonished by the extreme simplicity that was brought to light, dared believe his eyes'. Cf. also *HMS*, chapter 15 (256 KL). On the other hand at some point of his intellectual life Boerhaave changed his mind considerably about what kind of knowledge anatomy gave access to. Although initially he was convinced that this new method would give men of science a clear image of Nature, grasped in the simplicity of its essential elements and connections (apart from the *oratio in qua repurgatae medicinae faciliis asseritur*, the *oratio de usu ratiocinii mechanici in medicina* also belongs to this period), he later realized the intricacy and complexity of the human body and more in general of Nature (this new position was first expressed in the *Dissertatio de comparando certo in physicis* and remained substantially unchanged until Boerhaave's death).

describable in entirely mechanical terms. It is of great significance in this connection what he says in this other passage of *De usu ratiocinii mechanici in medicina*, which is worth quoting extensively:

Conflatum vero hac conditione, ut adunatarum partium effectus sit plures producere, eosque varios valde, motus, qui mechanica planè evidentia ex mole, figura, firmitate et nexu partium inter se, fluunt.

Quod confirmatur satis, quoniam solo mechanico motu destructa harum partium una, vel soluta tantum vinculi tenacitate, frustra eundem deinceps effectum iperamus.

Humanum ergo verum est, quale Mechanici speculantur, corpus: habet adeoque id omne; quod clara hujus specie exhibetur.

Eadem igitur lege, qua mathematicum illud et humana haec machina explicabilis arti geometricae erit; si modo pro datis assumuntur, non quas arbitrium mentis ex infinita possibilium varietate pro lubidine finxit; sed sensuum usu probè compertae dotes ejus peculiares.

Quarum plurimas anatome, vario equidem detexit artificio, observando majorum, quibus componimur, partium definitam structuram.

Plura in minoribus pulcherrimum detexit microscopii inventum, similem his, majoribusque naturam demonstrans.

Sed et liquidorum scientia revelavit multa, quae humorum per vasa nostra circumactorum ingenium, impetum, directionemque determinant.

The human body is composed in such a manner that its united parts are able to produce several motions of very different kinds which derive – fully in accordance with the law of mechanics – from the mass, the shape, and the firmness of the parts and from the way in which they are linked together. This is sufficiently confirmed by the fact that when one of these parts is destroyed as a result of mere mechanical movement, or even when the firmness of the ties is weakened, we look for the same effect in vain. Therefore man has a body in the sense which the mechanics give to that term and shows all the characteristics which are displayed by this clearly defined category. This human mechanism, then, may also be elucidated by geometry, according to the same rules as any mathematical body, provided that one takes only those particular characteristics as data which have been clearly ascertained by the use of one's sense-perception – not those which are ascribed to it quite arbitrarily, out of an infinite variety of possibilities, by a subjective judgement. Now, most of these characteristics have been brought to light by the various artifices of anatomy, which scrutinize the precise structure of the larger parts of the body. Many have also been discovered in the smaller parts through the wonderful invention of the microscope, which has shown that their nature corresponds to that of the larger ones. And then the science of liquids has also revealed many factors

which determine the nature, the impetus and direction of the humours which circulate through our vessels. *URM*, chapter 3 (96-97 KL).⁶³

On the one hand, the clear refusal to deduce ultimate causes explains why the mechanistic view of the human body had to be disentangled from Cartesian anthropology – a *mechanistic anthropology* and one which Boerhaave nonetheless considered deceitful – in order for such a view to be effective in medicine. In fact, as pointed out in the *Oratio in qua repurgatae medicinae facilis asseritur simplicitas*, ‘because the Cartesian school deduced most things from fictitious causes (*ex fictis*) and, putting their trust in mere generalities, made an enormous leap to particulars (*immani saltu ad singularia transiliit*), their work is so useless to the physician that medical science may safely throw off this great burden’.⁶⁴ On the other hand, reshaping the curriculum of medical faculties as well as assimilating the mechanistic explanatory framework into the mainly experiential and practical cognitive domain of medicine were indeed hard tasks,⁶⁵ and ones which required the support of Hippocrates’s father-like authority in order to be accomplished.

So, although Boerhaave had realized that the only way to safeguard medicine from the distortions of *a priori* assumptions was to kick off a centuries-old distinction between practice and causal reasoning as well as a vacuous concept of nature,⁶⁶ he advanced his new approach as if it were the very renovation of tradition and of Hippocratism in particular.

⁶³ On the mechanistic doctrine expounded in *De usu ratiocinii mechanici* it is worth mentioning what Duchesneau (1982, 104 ff) has put forward remarking that ‘le *De usu ratiocinii mechanici* postule une méthodologie mécaniste fondée sur l’analyse des données empiriques à l’aide des concepts de la mécanique, mais la tendance qui s’instaure dans l’application diverge par rapport à cet objectif: il s’agit alors d’appliquer un réductionnisme *a priori*, qui diffère fort peu des pratiques théoriques propres aux iatromécaniciens disciples de Descartes’. On Boerhaave’s concept of the basic structure of the body see also Lindeboom (1970c).

⁶⁴ *RMS*, chapter 7 (132 KL). On Descartes’ anthropology and the importance of Cartesianism for the seventeenth century medical thought see Grmek (1970) 19-23, Carter (1983) 99-103, Gaukroger (2002) 183-184 and 197-198. On Boerhaave’s relationships with Cartesianism, apart from the already mentioned Duchesneau (1982, but see also pp. 209-211) see Dankmeijer (1970) as well as Lindeboom (1970b) 39, (1971), and Schulte (1970) 93-101. Both Lindeboom and Schulte emphasize the Cartesian influences in Boerhaave’s doctrine, especially as concerns Boerhaave’s views on the relationship between the soul and the body; *contra* Wright (1990).

⁶⁵ On the importance of Boerhaave’s pedagogical reform see what is put forward (especially on Boerhaave’s contribution to the teaching of chemistry) by Powers (2001) 8.

⁶⁶ Cf. King (1965) 19-20.

As regards the mechanistic concept of ‘human nature’ Boerhaave presented it as the only ‘true’ concept of nature and traced it directly in Hippocrates, doing something not dissimilar from what Hoffman did in his work *De Medicina Hippocratis Mechanica* published in 1719.⁶⁷ This is demonstrated by a number of texts: for instance, in a passage of *De usu ratiocinii mechanici in medicina*, where Boerhaave affirms that

Liquido argumento magis communi fluidorum naturae Mechanicis explicatae, et in ipso corpore vi viscerum productae, quam singulari cujusque particulae virtuti, actiones vitae deberi.

Si aurea Verulamii de vita et morte monumenta, si liberae Hippocratis et Celsi de victu sanorum leges...

According to this clear evidence the movements of life are due rather to the common nature of fluids, as explained by the mechanicians, and as produced within the body itself by the action of the intestines, than to the particular quality of each single particle. If you think that this is not yet satisfactorily proved by the golden masterpiece of Bacon, or by the liberal rules, laid down by Hippocrates and Celsus on the diet of healthy persons... *URM*, chapter 16 (106 KL).⁶⁸

With regard to the reformation of medical teaching Boerhaave made use of Hippocrates in two different ways. When proposing a new curriculum studiorum for medical students – such a curriculum is outlined both in *De commendando studio hippocratico* (chapter 24) and, with some variations, in *De usu ratiocinii mechanici in medicina* (chapter 27-30) – he argued for the study of the Hippocratic works as part of teaching especially in therapeutics and in bedside clinical observation. This study was intended by Boerhaave as subsequent to and, above all, as consistent with and complementary to the learning of the hidden *mechanical* structures of the body and their functioning.⁶⁹

⁶⁷ About Hoffman’s reception and use of Hippocrates the point of reference remains Lonie (1981), where one can also find some remarks on Boerhaave’s doctrine and views on Hippocrates (pp. 118-119).

⁶⁸ Cf. also *HMS*, chapter 5 and 7.

⁶⁹ Cf. Cook (2000) 235: ‘The framework of Boerhaave’s *Institutiones* developed quite differently from previous ones. The teaching of the medical institutes had long constituted the basic academic instruction in medicine. It was divided into five parts: the elements of nature, and the natural functions of the body based thereon; pathology, semiotics; hygiene; and therapeutics. What changed most substantially between Boerhaave’s textbook and previous ones such as Fernel’s was the content of the first part, commonly called physiology. Boerhaave said nothing about the four elements or humours, about formal or final causes, about faculties or powers, or any of the rest of classical teaching. He even – significantly – left out talk about reason (or mind) and the

Furthermore, Boerhaave paid a lot of attention to depicting the image of Hippocrates as that of the perfect medical teacher and his own image as that of a zealous follower of the Hippocratic teaching example. Boerhaave's aim was twofold: on the one hand, encouraging students to follow Hippocrates – that is, the most zealous follower and even the mirror of Nature (a nature, however, that had been reshaped in mechanistic terms, as we have seen) –, was the easiest way to make them adhere to Boerhaave's own concept of nature. This proves quite clear from reading chapter 1 and chapter 22 of *De commendando studio hippocratico*:

Nulla exordii pompa gravis, pauca in medium proferam, quibus juveniles animos excitem, ut inflammato studio raptantur ad purissimos salutis fontes, quorum salubri latice sua conscripsit Pater ille atque Princeps Medicorum.

Without a pompous and weighty introduction, I shall put forward a few arguments with which I may stir the youthful spirits, so that they will eagerly hasten towards the purest sources of Health, containing the salubrious liquid upon which the Father and Prince of physicians drew in writing his works. *CSH*, chapter 1 (66 KL).

Divitiae, decus, gloria vos expectant, quique haec longe exsuperat, animus pulcherrime actorum conscientia laetus.

Si ego ad Sapientiae, cujus haec praemia sunt, Principatum adspiratis, Illum sectemini, qui eam condidit [...]

Vos vero, qui altiora spiratis, qui virtutem sibi solam habetis praemium, qui sapientiam ambitis, cujus exercitatio aegris salutaris, Patriae utilis, Parentibus gloriosa, Vobis honesta sit; in hujus Viri laboribus vos exercete.

Riches, esteem, and glory await you, and that which far surpasses these: a mind which is happy in the consciousness of most honourable achievements. So if you aspire to the mastery of the science, the rewards of which have been mentioned just now, you must follow him who is its founding father [...] You, however, who have higher aspirations, who consider virtue to be its own and only reward, who seek after a science which, when put to practical use, is salutary to the sick...you should train yourselves in the work of this Man. *CSH*, chapter 22 (81 KL).

In order to accomplish his project of reforming medical teaching, Boerhaave also needed the consent and support of the highest ranks of Leiden University as well as of the Medical Faculty, which required

passions. Instead, he explained all that was necessary for a physician to know in terms of observable solids and fluids alone'.

credit and authority for him, from both an intellectual and a moral point of view. In fact, the clearest sources of authority were the students' appreciation of his teaching activity and the continuous reference to Hippocrates as 'the Great Physician and the Father of Medicine'. That is why Boerhaave claimed to assimilate his own figure as a teacher with the authoritative and paradigmatic one of Hippocrates at the same time as trying to assert that a *new* way of teaching medicine was necessary and that this was to be found exclusively in the interest of the students and for the progress and, so to speak, the pacification of medical knowledge.⁷⁰ This process of assimilation as regards teaching is clear from a number of passages, especially when analyzing the lexical choices through which Boerhaave emphasises his own and Hippocrates's attitudes towards students and, more in general, towards teaching:

Ita enim in artis exercitatione se gessit, ut suo docuerit exemplo, post nitidam morborum delineationem...in his investigandis, fuerit ne altiori usus sapientia, an in communicandis candore animi, haud facile dixerim.

When Hippocrates exercised his art, he used to teach by his example, after a lucid description of the disease... it would not be easy for me to say whether he shows greater sagacity in carrying out his search or greater candour in publishing the results. *CSH* chapter 12 (73 KL).

Aculeum sensi hujus stimuli ad acriorem naturae indaginem; quae forte effecit, ut detexerim nonnihil, quod meliorum intentam dignioribus solertiam fefellerat. Exiguum id fuisse, fateor; hoc tamen palam narrare fas est, quod, si tale quid, qualecunque id fuerit, mihi judicare observatum crederem, id vero quam ocyssime detulerim ad Vos: quum Vobis totum illud deberi judicarem.

I was aware of this powerful incentive for a more energetic investigation of nature; it may have brought me to discover some things that had escaped the intelligence of my betters who focused on more elevated subjects. I own that these discoveries were trifles. Yet I may openly state that each time I believed to have observed something of this kind, however slight, I reported this to you as soon as possible, because in my opinion I owed this wholly to you. *SA*, chapter 22 (235 KL) (he is addressing his students)

⁷⁰ This idea of composing differences and contrasts in medicine into a unified and, so to speak, 'pacified' system of knowledge was quite distinctive of Boerhaave's personality and attitude of mind. Such a strenuous research of 'peace of mind', which had unquestionably strong roots in his religious beliefs, has been widely discussed by Cunningham (1990) 40-66, and Cook (2000).

Horum ergo dum lego vestigia, si quid vobis adjumenti praestare posse censeor, praesto sum qui ita me geram, ut ex vestro meum me comparare commodum opere ipso testari possim.

Vobiscum Veterum placita, Recentiorum et propria, si quae sunt, observata undique indefesso labore colligere, ex his laudatae Mechanices arte doctrinam Medicam condere non desinam, quamdiu in hac versanti statione, vires dederit Deus. URM, chapter 32 (119 KL) (he is addressing to his students)

If you think that I can offer you some help while I follow the tracks of these men, I propose to act in such a manner as to make clear the only advantage I seek for myself is to be of benefit to you. As long as God grants me strength to perform this office, I will, together with you, continue to collect from all sources the conclusion of the Ancients and those of later writers, as well as my own observations, if any, with untiring effort.

Conclusion

At this point in my argument I think it is time to draw some conclusions. I have tried to call your attention to the fact that Boerhaave's reception of Hippocrates was anything but ingenuous or superficial and responded to precise goals and complex rhetorical strategies.⁷¹ In contextualizing the great Greek physician in his own

⁷¹ As concerns the importance to attach to the use of specific rhetorical strategies in Boerhaave's medical discourse and especially in his orations, we should never be tempted by the idea that in Boerhaave the will of being persuasive and capturing the audience prevailed on the effort to expound as clearly as possible and honestly the actual core of his own medical doctrine and teaching method. In fact, if it is clearly true – as Kegel-Brinkgreve and Luyendijk-Elshout have remarked – that Boerhaave's orations are to be seen primarily as *orations*, i.e. as speeches composed according to the rules of rhetoric, it is also true that in Boerhaave's orations rhetoric never proves to be an end in itself but, as Boerhaave explicitly asserts, simplicity and purity of expression as a mirror of an inner purity of mind are the ultimate target of both his written and oral production. On the other hand, I think that Boerhaave's twofold attempt to make rhetoric function as a tool for the epistemological foundation of medicine and to subordinate the recourse to rhetorical strategies to considerations which do not prescind from an idea of 'morality' is further evidence, which has perhaps been underestimated by scholars, of Boerhaave's Baconianism as well as of the fact that he distanced himself from Renaissance medical rhetoric, which was in fact an epideictic kind of rhetoric whose main task was to praise medicine and physicians (see Siraisi 2004, 201). Cf. Bacon, *Works*, III, 411: '...and therefore Aristotle doth wisely place Rhetoric as between Logic on the one side and moral or civil knowledge on the other, as participating of both: for the proofs and demonstrations of Logic are toward all men indifferent and the same; but the proofs and persuasions of Rhetoric ought to differ

epistemological sphere Boerhaave moulded and remoulded Hippocrates so as to make him a perfect reflection of the figure of doctor and intellectual that Boerhaave embodied or claimed to embody. We could therefore say that it makes sense from a historical point of view to look at Boerhaave as the ‘Dutch Hippocrates’ only insofar as we admit that at some point Hippocrates himself *was transfigured* into a sort of ‘Greek Boerhaave’, that is, the *ante litteram* incarnation of all those values and qualities that Boerhaave considered as distinctive of a capable physician and that he claimed for himself.⁷²

If, on the one hand, the image of Hippocrates which we deal with is the result of a construction rather than of a historical record, and it would therefore be a waste of time to seek traces of a hypothetical rather than an actual ‘true’ Hippocrates in Boerhaave’s orations, on the other hand we should not fail to observe that Boerhaave’s construction of Hippocrates maintained quite a high number of conventional features. For instance, when representing Hippocrates as the founder of bedside clinical practice Boerhaave remained in-step with a well-established tradition of thought; this is also the case as regards two other *loci communes* which Boerhaave made extensive use of, namely the ‘power of paternity’ ascribed to Hippocrates (Helen King has shown how deep-rooted and popular this idea had become among physicians at least since the sixteenth century) and the opposition between Hippocrates and Galen, the former being seen as the faithful follower of Nature, the latter as the prototype of the verbose and speculative physician (in a number of passages Boerhaave explicitly states that Galen is a reliable point of reference only insofar as he keeps within Hippocrates’s teachings).⁷³ To be frank, neither was Boerhaave

according to the auditors’ (see Rossi 2004, 352 ff.). On Bacon’s views on rhetoric and its function in science Jardine’s monograph (Jardine 1974) pays too little attention to the positive function of rhetoric, overemphasizing, instead, the role of dialectics in Bacon’s system. For a far more balanced assessment of Bacon’s ideas on rhetoric see Vicker’s excellent contribution in Peltonen (1996) 200-230, and Gaukroger (2001) 37-43.

⁷² This kind of reciprocal assimilation between Boerhaave and Hippocrates was already clear to the eyes of Boerhaave’s student and biographer William Burton, since the latter writes that ‘the character he [Boerhaave] here draws of Hippocrates seems to have been so nearly descriptive of his own’ (Burton 1743, 24).

⁷³ Cf. *CSH*, chapter 17 (78 KL): ‘The best among the Arabs copy Galen pure and simple, who is wholly Hippocratic in as far as he is true’; *RMS*, chapter 5 (130 KL): ‘And finally you, Claudius Galenus: which truly useful matters, apart from some anatomical ones, did you lay up for eternity in your vast works? True, in these the pure Coan teaching shines forth (*pura quidem in hisce Coaca nitent*): but when that has been

the first to make the claim for progress in medicine coexist with, and in many respects depend on, the resumption and exaltation of *selected* aspects and authors of Antiquity and especially of Hippocrates. In fact, as Thomas Rütten has brilliantly pointed out in a contribution of some years ago, this attitude had been common to many including the most diverse medical authors since the Renaissance (I think, for example, of Paracelsus and van Helmont).⁷⁴

Nonetheless, I think I have shown that in Boerhaave's approach to Hippocrates, along with some traits that could induce us to speak of a conventional praise of Hippocrates, we do find strong elements of novelty and originality, ones which largely redeem and in some way justify the use Boerhaave made of a number of commonplaces of Hippocratism. This originality, however, is not to be sought in the field of the historical and/or fictitious materials concerning Hippocrates to which Boerhaave had access and that he could handle, but in that of the *logic* as well as the *pragmatics* of Boerhaave's Hippocratism. With regard to this, I would like to refer to the distinction, drawn by the French epistemologist and historian of sciences Georges Canguilhem,

extracted from them, the rest is paltry, lacking in brilliance; it collapses as a mere nerveless bulk (*verum, iis excerptis, reliqua sine splendore sordet, caditque nervis moles vidua*)'.

⁷⁴ In this contribution (Rütten 2002), the German scholar has also persuasively shown that Hippocratism was functional to at least two different concepts of progress in medicine, one of which was past-oriented, the other future-oriented. As he writes (p. 48 ff.), 'The tendency to view Hippocrates as the origin of medical progress was also strengthened by cyclical understandings of history and by theories of degeneration. For humanists, Hippocrates, his works and his time represented the first peak or sometimes even the only peak in the history of medicine. Furthermore, by applying theological imagery to medicine, Hippocrates was thought to have acquired his medical knowledge by means of a revelation that was directly comparable to divine revelation. Similarly, the figure of Hippocrates was constructed in analogy with the *Christus medicus* and he was stylised as an initiate of the Creator's will as manifest in unadulterated nature. Medical tradition was thus constructed analogously to the theological tradition which was marked by a hierarchical succession with God at the top, followed by the patristic elders of the Church [...] If past-oriented concepts of progress looked to Hippocrates, so too did future-oriented ones. From this perspective, Hippocrates was a forerunner who had set medicine on a certain course – a course which had to be followed through into the future; Hippocrates became the ultimate yardstick of technological, moral or social advance and a timeless figure predestined to serve as a contemporary companion to any physician. Again, a common metaphor might help in understanding this future-oriented Hippocratism: Hippocrates was regarded as the good farmer who first sowed this art. This, of course, implied that he had not yet harvested all the fruits that he had planted'.

between the two key concepts of 'to tell the truth' and 'to be right'.⁷⁵ As Canguilhem points out, the task and the ultimate aim of scientists as well as of historians of sciences is, or should be, 'to be right' rather than 'to tell the truth'. According to Canguilhem, 'being right' means exactly the opposite of what a venerable tradition has argued, that is to grasp the hidden, essential and immutable nucleus of things. 'Being right' would have, rather, something to do with moving through a continuous series of ruptures towards new horizons of rationality and with having access to possible new ways of deciphering reality. Truth, says Canguilhem, is polemical and constructive, since it exists only in making actual what used to be virtual; it is an open process of invention, the difference between an exhausted interpretative code and a new one, by which rationality is led to explore new paths and new forms of discourse. By contrast, falsehood is seen by Canguilhem as the opposite position, peculiar to those whose ideas crystallize into a sole configuration which de-legitimises or hides all the alternatives, as if it were the only possible or, worse, the only *true* one.

It is thus clear that neither Boerhaave nor any other medical author antecedent or contemporary to him was telling, or was aiming to tell, the truth about Hippocrates (granted that such truth really exists and is only asking to be told by someone), as the concern to reach something assimilable to what *we* would define as an 'objective' view of Hippocrates in context simply did not belong within their theoretical horizon. In fact, as has already been put forward in the first part of this paper, we must always bear in mind that never did recognizing the distance between Antiquity and the present of medicine prevent late seventeenth/early eighteenth century medical authors from adjusting the ancient models (and especially Hippocrates) to their own views, so making the dialogue with these models an essential and structuring part of their *praxis medica*. This is the case even with those authors, like Boerhaave, who were able to approach ancient texts philologically and whose understanding of the historical development of medicine was deep enough to make us speak of a first step toward historicization and the birth of a *histoire historique*.⁷⁶

⁷⁵ Canguilhem defined the terms of this distinction in more than one contribution. See his paper on *L'objet de l'histoire des sciences* (Canguilhem 1968, 9-23) and a short but illuminating paper *Sur la science et la contre-science* (first published in French in 1971, in *Hommage à Jean Hyppolite*), which was translated into Italian in 2004 (Canguilhem 2004, with an introductory essay by Andrea Cavazzini).

⁷⁶ After all, one could legitimately wonder if *our* historicizing approach does not result in any kind of assimilation or appropriation, if not in an actual use, of the past of

However, as far as Canguilhem's notion of 'being right' is concerned, I would like to suggest that, differently from many others of his time, Boerhaave *was right* when making use of Hippocrates and Hippocratism. If the many – and among these we could mention John Barker, whose positions I have discussed in this paper – postulated that in its purest essence of clinical practice medicine was more or less immutable and represented therefore a direct continuation and, so to speak, a 'filiation' of the Hippocratic precepts and concept of Nature, Boerhaave's efforts were aimed at conceiving a different, nonconformist and non-linear, form of continuity, one which explicitly implied, rather than excluding, *transformations* and *adaptations* of medical knowledge as well as *deviations from* and *variations of* the ancient models of this knowledge.

In other words, Boerhaave was able to make 'continuity' a category of progress rather than conservation in medicine. He called upon Hippocrates not to preserve a traditional form of medical knowledge that was going to be corrupted or lost forever, but *to break* with the stagnation he perceived in contemporary medicine, *to open* new perspectives and *to multiply* the possible horizons of rationality. All that, of course, testifies to the effort (one of the most strenuous of the history of medicine, in fact) to make medical knowledge and practice 'scientific' in the modern sense of the word, even though in Boerhaave's time this effort did not prove completely successful *yet*. More than one century after Boerhaave's, another attempt to harmonize the medical experience and practice with the rules, research procedures and mentality of the hard sciences proved to be definitive, and this happened when anatomopathology and experimental physiology imposed themselves as *the* paradigms to which physicians were expected to conform. But this time, in deviating from ancient medicine and in emphasizing the resources of *modern* experimentalism, these new paradigms claimed their self-sufficiency positivistically and emphasised their discontinuity from the past. If Boerhaave could still make *effective use* of Hippocrates within a theoretical framework which claimed to be scientific, nineteenth century science-based medicine, on the other hand, started to finally abandon Hippocrates as not useful

medicine (and first of all of Hippocrates) either. In fact, if the very choice of distancing ourselves and our medical science from that knowledge perceived as belonging to the past does not represent the most sophisticated, and I would be tempted to say surreptitious, way to appropriate such knowledge and make its nature more malleable and passively receptive of interpretations that always pretend to be deep-rooted in the ground of objectivity.

either for educating doctors or for providing medical research with a positive method. So, although some physicians still continued to profess to be ‘Hippocratic’ (Laënnec was one of those, and indeed one of the most famous and influential),⁷⁷ although there also continued to be disputes between Hippocratics and anti-Hippocratics and between different conceptions of Hippocratism (the most famous one is that which opposed the medical schools of Paris and Montpellier in the first half of the nineteenth century);⁷⁸ nevertheless, Hippocratism began to be gradually reduced to a sort of *ideological wreck* – that is the source of precepts mainly concerning deontology and medical etiquette⁷⁹ – (this process would be accomplished only in the twentieth century, paradoxically starting from the Neo-Hippocratic wave which spread all over the Western world in the 1930s),⁸⁰ or, as happened in most cases, to a *self-legitimizing empty icon* of a knowledge that had finally learnt, or was supposed to have learnt, how to force the human body to reveal its nature and that for this reason felt ready to dismiss tradition and throw itself into a future still unexplored and full of expectations and possibilities for medicine,⁸¹ but also – and I would say inevitably – of

⁷⁷ Laënnec outlined the conceptual traits of Hippocratism in his degree dissertation, discussed in 1804, the title of which was *Propositions sur la Doctrine d'Hippocrate relativement à la médecine pratique*. On Laënnec's views on Hippocrates see Pigeaud (1975) (fundamental), Martiny (1975) and Duffin (1990).

⁷⁸ On the polemic that opposed the medical schools of Paris and Montpellier see the accurate historical reconstruction attempted by La Berge 2002.

⁷⁹ Cf. Weisz (2002) 262: ‘During the interwar period, various types of book about Hippocrates continued to be published [...] the majority of works were ideological in nature, identifying Hippocrates with critiques of orthodox medicine and with various forms of alternative medicine’. The ‘heterodoxy’, in fact, represents the quintessence of these claims to Hippocrates. One could say that this is the most evident sign that an epochal rupture has taken place between *pre-experimental* and experimental medicine, one which involves theory as well as the organization and internal structure of the medical research community.

⁸⁰ On the uses of Hippocrates as a deontological model in nineteenth and twentieth century medicine cf. Nutton (1996) (fundamental) and Lederer (2002). On the fortune of Hippocrates and Hippocratism in nineteenth and twentieth century medical cultures see also Cantor (2002c), Weisz (2002) and Timmermann (2002).

⁸¹ This attitude of mind is perfectly exemplified by Claude Bernard's approach to Hippocrates. Bernard, who was the father of experimental physiology, makes reference to Hippocrates several times, but in no case we can consider these references to be anything other than rhetorical devices that Bernard adopted to better justify his own theories and research. This rhetorical, but substantially superficial, assimilation of Hippocrates proves clear when thinking of Bernard's opinion, that Hippocrates would have been a champion of experimentalism in physiology if he had lived to the same age as Bernard (cf. Virieux-Reymond 1977, 371). On the other hand, as Zhmud (2006) has

uncertainties and ambiguities, especially as far as bioethical issues are concerned.⁸²

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lucidly argued, the 'religion of progress', that is the belief that the future will necessarily lead to progress in human conditions and knowledge is typical of the nineteenth century mentality, and it is not possible to find it before then. As concerns Antiquity, he writes that (p. 17) 'the Greek notion of progress was preeminently, though not exclusively, on achievements in human knowledge and technology and hence proved much more limited than the nineteenth century one. Even granting that some notions of progress current at the time did include the idea of steady social and moral improvement, it was the real achievements of the past and the present, not imaginary future prospects, that the Greeks were concerned with'.

⁸² This point has been very cleverly elucidated from different standpoints by Nutton and Lederer (see above, note 88), who both focus on the legitimating power ascribed to an ahistorical and dehistoricized figure of Hippocrates as concerns ethics and moral matters, even if in most cases this power prescinded completely from a positive comprehension of, and sometimes from a basic acquaintance with, the Hippocratic works and doctrines.

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List of Abbreviations and Titles of the Hippocratic Corpus and Galen

G ¹	<i>Ad Glauc. de meth. med.</i>	<i>Ad Glauconem de methodo medendi</i>	<i>Therapeutics to Glaucon</i>
G	<i>Adv. Iulian.</i>	<i>Adversus Iulianum</i>	<i>Against Julian</i>
G	<i>Adv. Lyc.</i>	<i>Adversus Lycum</i>	<i>Against Lycus</i>
G	<i>Antid.</i>	<i>De antidotis libri II</i>	<i>On Antidotes</i>
G	<i>Ars med.</i>	<i>Ars medica</i>	<i>Art of Medicine</i>
G	<i>De alim. facult.</i>	<i>De alimentorum facultatibus libri III</i>	<i>On the Properties of Foodstuffs</i>
G	<i>De an. aff. dign. et cur.</i>	<i>De propriorum animi cuiuslibet affectuum dignotione et curatione</i>	<i>On the Diagnosis and Cure of the Errors of the Soul</i>
G	<i>De anat. admin.</i>	<i>De anatomicis administrationibus</i>	<i>On Anatomical Procedures</i>
G	<i>De atra bile</i>	<i>De atra bile</i>	<i>On Black Bile</i>
G	<i>De comp. med. per gen.</i>	<i>De compositione medicamentorum per genera libri VII</i>	<i>On the Composition of Drugs according to Kind</i>
G	<i>De comp. med. sec. loc.</i>	<i>De compositione medicamentorum secundum locos libri I-X</i>	<i>On the Composition of Drugs according to Places</i>
G	<i>De const. art. med.</i>	<i>De constitutione artis medicae ad Patrophilum</i>	<i>On the Composition of the Art of Medicine</i>
G	<i>De cris.</i>	<i>De crisis libri III</i>	<i>On Crises</i>
G	<i>De diebus decr.</i>	<i>De diebus decretoriis libri III</i>	<i>On Critical Days</i>
G	<i>De diff. febr.</i>	<i>De differentiis febrium libri II</i>	<i>On the Differences of Fevers</i>

¹ G = *Corpus Galenicum*: Abbreviations: Fichtner, G. (ed.), *Corpus Galenicum: Verzeichnis der galenischen und pseudogalenischen Schriften*. Tübingen: Institut für Geschichte der Medizin, 1988. English titles: Hankinson, R.J., *The Cambridge Companion to Galen*. Cambridge 2008.

G	<i>De diff. puls. = de puls. differ.</i>	<i>De differentia pulsuum libri IV</i>	<i>On the Differences of Pulses</i>
G	<i>De diff. resp.</i>	<i>De difficultate respirationis</i>	<i>On Difficulties in Breathing</i>
G	<i>De elem. sec. Hipp.</i>	<i>De elementis secundum Hippocratem</i>	<i>On the Elements according to Hippocrates</i>
G	<i>De fac. nat.</i>	<i>De facultatibus naturalibus libri III</i>	<i>On the Natural Faculties</i>
G	<i>De fasc.</i>	<i>De fasciis</i>	<i>On Bandages</i>
G	<i>De libr. propr.</i>	<i>De libris propriis</i>	<i>On My Own Books</i>
G	<i>De loc. aff.</i>	<i>De locis affectis libri VI</i>	<i>On Affected Parts</i>
G	<i>De meth. med.</i>	<i>De methodo medendi</i>	<i>On the Therapeutic Method</i>
G	<i>De musc. dissect.</i>	<i>De musculorum dissectione ad tirones</i>	<i>On the Dissection of Muscles [for Beginners]</i>
G	<i>De nomin. med.</i>	<i>De nominibus medicis</i>	<i>On Medical Names</i>
G	<i>De opt. doct.</i>	<i>De optima doctrina</i>	<i>On the Best Method of Teaching</i>
G	<i>De optimo medico cognoscendo</i>	<i>De optimo medico cognoscendo</i>	<i>On Recognizing the Best Physician</i>
G	<i>De ord. libr. suor.</i>	<i>De ordine librorum suorum ad Eugenianum</i>	<i>The Order of My Own Books</i>
G	<i>De ossibus</i>	<i>De ossibus ad tirones</i>	<i>On Bones for Beginners</i>
G	<i>De plac. Hipp. et Plat.</i>	<i>De placitis Hippocratis et Platonis libri IX</i>	<i>On the Doctrines of Hippocrates and Plato</i>
G	<i>De plenit.</i>	<i>De plenitudine</i>	<i>On Plethora</i>
G	<i>De praecogn.</i>	<i>De praecognitione ad Epigenem</i>	<i>On Prognosis</i>
G	<i>De propr. plac.</i>	<i>De propriis placitis</i>	<i>On His Own Opinions</i>
G	<i>De puls. ad tir.</i>	<i>De pulsibus ad tirones</i>	<i>On the Pulse for Beginners</i>
G	<i>De san. tuenda</i>	<i>De sanitate tuenda libri VI</i>	<i>On the Preservation of Health</i>

G	<i>De sectis</i>	<i>De sectis ad eos, qui introducuntur</i>	<i>On Sects for Beginners</i>
G	<i>De sem.</i>	<i>De semine libri II</i>	<i>On Semen</i>
G	<i>De simpl. med. temp. ac fac.</i>	<i>De simplicium medicamentorum temperamentis et facultatibus libri I-XI</i>	<i>On the Powers [and Mixtures] of Simple Drugs</i>
G	<i>De temper.</i>	<i>De temperamentis libri III</i>	<i>On Mixtures</i>
G	<i>De ther. ad Pis.</i>	<i>De theriaca ad Pisonem liber</i>	<i>On Theriac to Piso</i>
G	<i>De totius morbi temp.</i>	<i>De totius morbi temporibus</i>	<i>Opportune Moments in Diseases as a Whole</i>
G	<i>De trem.</i>	<i>De tremore, palpatione, convulsione et rigore</i>	<i>On Tremor, Palpitation, Spasm and Rigor</i>
G	<i>De usu part.</i>	<i>De usu partium</i>	<i>On the Utility of the Parts</i>
G	<i>De venae sect. adv. Erasistrateos</i>	<i>De venae sectione adversus Erasistrateos Romae degentes</i>	<i>On Bloodletting against the Erasistrateans at Rome</i>
G	<i>De venae sect. adv. Erasistratum</i>	<i>De venae sectione adversus Erasistratum</i>	<i>On Bloodletting against Erasistratus</i>
G	<i>Def. med.</i>	<i>Definitiones medicae</i>	<i>Medical Definitions</i>
G	<i>In Hipp. Acut. comment.</i>	<i>In Hippocratis librum de acutorum victu commentarii IV</i>	<i>On Hippocrates' 'Regimen in Acute Diseases'</i>
G	<i>In Hipp. Aph. comment.</i>	<i>In Hippocratis aphorismos commentarii I-VII</i>	<i>On Hippocrates' 'Aphorisms'</i>
G	<i>In Hipp. Artic. comment.</i>	<i>In Hippocratis de articulis librum commentarii IV</i>	<i>On Hippocrates' 'On Joints'</i>
G	<i>In Hipp. Epid. I comment.</i>	<i>In Hippocratis epidemiarum librum primum commentarii III</i>	<i>On Hippocrates' 'Epidemics' I</i>

G	<i>In Hipp. Epid. II comment.</i>	<i>In Hippocratis epidemiarum librum secundum commentarii V</i>	<i>On Hippocrates' 'Epidemics II'</i>
G	<i>In Hipp. Epid. III comment.</i>	<i>In Hippocratis epidemiarum librum tertium commentarii III</i>	<i>On Hippocrates' 'Epidemics III'</i>
G	<i>In Hipp. Epid. VI comment.</i>	<i>In Hippocratis epidemiarum librum sextum commentarii VI</i>	<i>On Hippocrates' 'Epidemics VI'</i>
G	<i>In Hipp. Fract. comment.</i>	<i>In Hippocratis librum de fracturis commentarii III</i>	<i>On Hippocrates' 'Fractures'</i>
G	<i>In Hipp. Hum. comment.</i>	<i>In Hippocratis de humoribus librum commentarii III</i>	<i>On Hippocrates' 'Humours'</i>
G	<i>In Hipp. Nat. Hom. comment.</i>	<i>In Hippocratis de natura hominis librum commentarii II</i>	<i>On Hippocrates' 'Nature of Man'</i>
G	<i>In Hipp. Off. Med. comment.</i>	<i>In Hippocratis librum de officina medici commentarii III</i>	<i>On Hippocrates' 'Surgery'</i>
G	<i>In Hipp. Progn. comment.</i>	<i>In Hippocratem prognosticum commentarii III</i>	<i>On Hippocrates' 'Prognostic'</i>
G	<i>In Hipp. Prorrhēt. comment.</i>	<i>In Hippocratis prorrheticum I commentaria III</i>	<i>On Hippocrates' 'Prorrhetics'</i>
G	<i>In Hipp. Vict. Rat. in Morb. Acut. comment.</i>	<i>In Hippocratis De natura hominis commentarius tertius</i>	<i>On Hippocrates' 'Regimen in Acute Diseases'</i>
G	<i>Introd. s. medic.</i>	<i>Introductio sive medicus</i>	<i>Introduction</i>
G	<i>Protr.</i>	<i>Protrepticus</i>	<i>Exhortation to the Arts</i>
G	<i>Quod opt. med.</i>	<i>Quod optimus medicus sit quoque philosophus</i>	<i>The Best Doctor is also a Philosopher</i>
G	<i>Subf. emp.</i>	<i>Subfiguratio empirica</i>	<i>Outline of Empiricism</i>

G	<i>Thrasybulus</i>	<i>Thrasybulus sive utrum medicinae sit an gymnasticae hygiene</i>	<i>Thrasybulus</i>
H ²	<i>Acut.</i>	<i>De diaeta acutorum</i>	<i>Regimen in Acute Diseases</i>
H	<i>Acut. (spur.)</i>	<i>De diaeta acutorum (spurium)</i>	<i>Regimen in Acute Diseases (Appendix)</i>
H	<i>Aer.</i>	<i>De aere, aquis, locis</i>	<i>Airs Waters Places</i>
H	<i>Aff.</i>	<i>De affectionibus</i>	<i>Affections</i>
H	<i>Alim.</i>	<i>De alimento</i>	<i>Nutriments</i>
H	<i>Aph.</i>	<i>Aphorismi</i>	<i>Aphorisms</i>
H	<i>Art.</i>	<i>De articulis</i>	<i>Joints</i>
H	<i>Carn.</i>	<i>De carnibus</i>	<i>Fleshes</i>
H	<i>Coac.</i>	<i>Coacae praecognitiones</i>	<i>Coan prenotions</i>
H	<i>De Arte</i>	<i>De arte</i>	<i>The Art</i>
H	<i>Decent.</i>	<i>De decenti ornatu</i>	<i>Decorum</i>
H	<i>Epid. 1</i>	<i>De morbis popularibus I</i>	<i>Epidemics 1</i>
H	<i>Epid. 2</i>	<i>De morbis popularibus II</i>	<i>Epidemics 2</i>
H	<i>Epid. 3</i>	<i>De morbis popularibus III</i>	<i>Epidemics 3</i>
H	<i>Epid. 4</i>	<i>De morbis popularibus IV</i>	<i>Epidemics 4</i>
H	<i>Epid. 5</i>	<i>De morbis popularibus V</i>	<i>Epidemics 5</i>
H	<i>Epid. 6</i>	<i>De morbis popularibus VI</i>	<i>Epidemics 6</i>
H	<i>Epist.</i>	<i>Epistulae</i>	<i>Letters</i>
H	<i>Epistula ad Antiochum regem</i>	<i>Epistula ad Antiochum regem</i>	<i>Letter to Antiochus</i>
H	<i>Epistula ad Maecenatem</i>	<i>Epistula ad Maecenatem</i>	<i>Letter to Maecenas</i>
H	<i>Fist.</i>	<i>De fistulis</i>	<i>Fistulae</i>
H	<i>Flat.</i>	<i>De flatibus</i>	<i>Breaths</i>

² H = *Corpus Hippocraticum*: Abbreviations: Fichtner, G. (ed.), *Corpus Hippocraticum: Verzeichnis der hippokratischen und pseudohippokratischen Schriften*. Tübingen: Institut für Geschichte der Medizin, 1988. English titles: taken from the volumes of the Loeb Classical Library and especially from Jones, W.H.S. (ed. and transl.), *Hippocrates*, vol. II, London/Cambridge Mass, 1967, pp. lviii- lxiii.

H	<i>Fract.</i>	<i>De fracturis</i>	<i>Fractures</i>
H	<i>Genit.</i>	<i>De genitura</i>	<i>Generation</i>
H	<i>Haem.</i>	<i>De haemorrhoidibus</i>	<i>Hemorrhoids</i>
H	<i>Hippocratis ad Galenum discipulum liber de pulsibus et de temperamentis corporis humani</i>	<i>Hippocratis ad Galenum discipulum liber de pulsibus et de temperamentis corporis humani</i>	<i>The Pulse and the Human Temperament</i>
H	<i>Insomn.</i>	<i>De victu IV</i>	<i>Regimen 4</i>
H	<i>Int.</i>	<i>De morbis internis</i>	<i>Internal Affections</i>
H	<i>Jusj.</i>	<i>Iusiurandum</i>	<i>Oath</i>
H	<i>Lex</i>	<i>Lex</i>	<i>Law</i>
H	<i>Loc. Hom.</i>	<i>De locis in homine</i>	<i>Places in Man</i>
H	<i>Medic.</i>	<i>De medico/Medico</i>	<i>Physician</i>
H	<i>Morb. 1</i>	<i>De morbis I</i>	<i>Diseases 1</i>
H	<i>Morb. 2</i>	<i>De morbis II</i>	<i>Diseases 2</i>
H	<i>Morb. 3</i>	<i>De morbis III</i>	<i>Diseases 3</i>
H	<i>Morb. 4</i>	<i>De morbis IV</i>	<i>Diseases 4</i>
H	<i>Morb. Sacr.</i>	<i>De morbo sacro</i>	<i>Sacred Disease</i>
H	<i>Mul. 1</i>	<i>De morbis mulierum I</i>	<i>Diseases of Women 1</i>
H	<i>Mul. 2</i>	<i>De morbis mulierum II</i>	<i>Diseases of Women 2</i>
H	<i>Nat. Hom.</i>	<i>De natura hominis</i>	<i>Nature of Man</i>
H	<i>Nat. Mul.</i>	<i>De natura muliebri</i>	<i>Nature of Women</i>
H	<i>Nat. Puer.</i>	<i>De natura pueri</i>	<i>Nature of the Child</i>
H	<i>Oct.</i>	<i>De octimestri partu</i>	<i>Eight Months' Child</i>
H	<i>Off.</i>	<i>De officina medici</i>	<i>Surgery</i>
H	<i>Praec.</i>	<i>Praecepta</i>	<i>Precepts</i>
H	<i>Prog.</i>	<i>Prognosticon</i>	<i>Prognostic</i>
H	<i>Prorrh. II</i>	<i>Prorrheticon II</i>	<i>Prorrhetic 2</i>
H	<i>Remedia</i>	<i>Remedia</i>	<i>Remedies (lost)</i>
H	<i>Salubr.</i>	<i>De salubri victu</i>	<i>Regimen in Health</i>
H	<i>Septim.</i>	<i>De septimestri partu</i>	<i>Seven Months' Child</i>
H	<i>Steril./Ster. → Mul. 3</i>	<i>De sterilibus</i>	<i>Barrenness</i>
H	<i>Superf.</i>	<i>De superfetatione</i>	<i>Superfoetation</i>
H	<i>Ulc.</i>	<i>De ulceribus</i>	<i>Sores</i>
H	<i>VC</i>	<i>De capitis vulneribus</i>	<i>Wounds in the Head</i>
H	<i>Vict. I</i>	<i>De victu I</i>	<i>Regimen I</i>

H	<i>Vict.2</i>	<i>De victu II</i>	<i>Regimen II</i>
H	<i>Vict.3</i>	<i>De victu III</i>	<i>Regimen III</i>
H	<i>Vid. Ac.</i>	<i>De visu</i>	<i>Sight</i>
H	<i>VM</i>	<i>De vetere medicina</i>	<i>Ancient Medicine</i>

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